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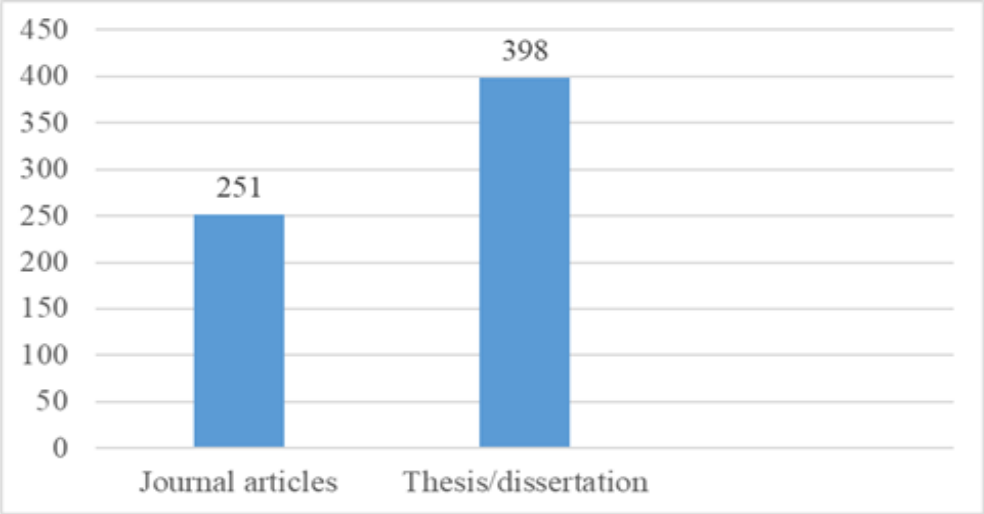
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INTRODUCTION

This bulletin is intended to provide information on research by members of Muhimbili University of Health and Allied Sciences (MUHAS), Dar es Salaam, Tanzania. It provides summaries of publications during the preceding calendar year, including dissertations, thesis, journal articles, and conference proceedings. Members are requested to provide the Chief Editor with summaries of their publications and ongoing research in electronic form for inclusion in the Bulletin. Abstract should be limited to 200 words. The current volume 23, No.1 contains a total of 649 abstracts, whereby 251 entries are journal articles, and 398 are thesis & dissertations. In this publication, Graph 1 shows publications followed by Table 1, which presents trends of publications for two years: 2023 to 2024.



Graph 1: Publications at MUHAS for 2024

Table 1: Trends of Publications at MUHAS for 2023-2024

	2023	**2024**	**Increment**
Journal articles	227	251	27
Thesis/dissertation	321	398	77

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Table 1: Trends of Publications at MUHAS for 2023-2024 ii

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CHAPTER ONE

JOURNAL ARTICLES

1. **Abdallah, M., Mauki, I., Lyamuya, E. (2024). Antimicrobial susceptibility pattern of Bacterial isolates and associated factors for bacteriuria among cancer patients attending ocean road Cancer Institute, Tanzania.** ***Tanzania Journal of Health Research*****, Vol.25(1).**

   Doi:10.4314/thrb.v25i1.

   ABSTRACT

   Background: Cancer patients are among people at high risk of infection with antibiotic-resistant bacteria causing bacteriuria as a consequence of cancer-induced immunosuppression and complex cancer treatments. **Methodology:** A hospital-based cross-sectional study involving the quantitative method of data collection was carried out to determine the prevalence of bacteriuria, antibacterial susceptibility pattern of the causative isolates and associated risk factors among cancer patients attending Ocean Road Cancer Institute. A convenient sampling technique was used to obtain 422 cancer patients. A urine sample was collected to establish the prevalence of bacteriuria and the antibacterial susceptibility pattern of the isolates. Interviews were carried out with study participants using a questionnaire to collect social-demographic data. A clinical record collection form was used to collect clinical data of each participant. Data analysis was performed using descriptive statistics (mean, frequencies and proportions) and binary logistic regression by using SPSS software version 20. **Results:** The prevalence of bacteriuria among asymptomatic and symptomatic cancer patients was 3.6% and 14.0%, respectively. Escherichia coli accounted for a large proportion of all Gram-negative bacteria isolates (53%). The other Gram-negative bacteria were Pseudomonas species (16%), Acinetobacter species (15%), Klebsiella species (10%),

Enterobacter species (3%), Proteus mirabilis (1.5%), and Aeromonas species (1.5%). Enterococcus species contributed roughly two-thirds of all Gram-positive bacteria isolates (67%). Multidrug resistance (MDR) was found in 27 (75%) of Escherichia coli isolates. The factors associated with bacteriuria in cancer patients were sex, patients' settings, history of antibiotic use and occupation. **Conclusion:** Bacteriuria, particularly that caused by MDR Escherichia coli, is common among cancer patients at Ocean Road Cancer Institute and is associated with sex, patients' settings and occupation.

2. **Abdul-ladif, I.M, Mlangwa, M.M, Machibya, F.M. (2024). Perceived need for orthodontic treatment among 10-18-year-old patients and their parents in Tanzania.** ***Ghana Dental Journal,*** **Vol. 21(1).**

Doi: 10.4314/gdj.v21i1.3

ABSTRACT

Background: Parents tend to influence children's initiating orthodontic treatment. Thus, it is important to determine children's perceived need for treatment as it may differ from their parents' perception. **Aim:** To assess the perceived dental aesthetics, determine the perceived orthodontic treatment need among patients, and compare it withtheir parent's perception. **Material and methods:** The study involved 10-18-year-old orthodontic patients and their parents attending the clinic. Data was collected through self-administered questionnaires for the patients and the parents for socio-demographic data and the Aesthetic Component (AC) of Index of Orthodontic Treatment Need (IOTN) index to assess dental aesthetics. **Results:** The patients were 10-18 years old with a mean age of 14 (+/-1.9 SD). More patients (68.2%) scored themselves in the 'No treatment need' category of the AC of the IOTN compared to parents (39.6%) who scored their children in this category. Moreover, parents' aesthetic scores were strongly associated with patient's perceived need for orthodontic treatment ($p<0.001$). **Conclusions:** The self-reported need for orthodontic treatment

among the patients was lower than the need for treatment as perceived by their parents. Parent's perception of dental aesthetics significantly influenced the self-perceived need for treatment among the patients.

3. **Abraham, Z.S., Fussi, O.C., Kahinga, A.A. (2024). Knowledge and practices of epistaxis in Eastern Tanzania: A cross-sectional study of an emergency in otorhinolaryngology.** ***African Journal of Emergency Medicine*****. Vol.14(2).**

   Doi:10.1016/j.afjem.2024.03.002.

   ABSTRACT

   Introduction: It's approximated that 60% of the population globally experience epistaxis during lifetime. Despite epistaxis being prevalent in Tanzania, there are limited studies that have explored experience of participants on epistaxis. This study aims to determine knowledge on the causes, first aid management and practices of epistaxis among patients attending a health facility in Eastern Tanzania. **Methods:** A descriptive cross-sectional study was conducted where 371 participants aged 15 years and above were interviewed using structured questionnaires. Data was analyzed using Statistical Package of Social Sciences version 23. Chi-square tests were performed and a p-value <0.05 was considered to be statistically significant. **Results:** About two-thirds (60.9%) of the study participants had good knowledge of the causes of epistaxis. Majority of participants knew excessive nose manipulation (95.1%) to be the commonest cause of epistaxis and the least cause mentioned was chronic liver disease (24.8%). On the other hand, 77.6% of the participants had good knowledge while 22.4% had poor knowledge regarding first aid management of epistaxis. In this study, 328(88.4%) participants knew pressing the nose could stop epistaxis, while 164(44.2%) knew the best position to stop epistaxis and that is to tilt the head forward and those who had history of epistaxis, 150 (73.2%) out of 205 pinched the nose as the first aid. Similarly, 133(35.8%) participants thought cessation of smoking has effect on

decreasing the occurrence of epistaxis. A significant association was noted between knowledge of first aid management of epistaxis and some socio-demographic characteristics such as age and educational level. There was also a significant association between knowledge of the causes of epistaxis and educational level. **Conclusion:** Majority of the participants had good knowledge of the causes and first aid management of epistaxis.

4. **Abraham, Z.S., Nyiraha, J.M., Mnguruta, B.J, *et al*… (2024). Otorhinolaryngological manifestations among people living with HIV/AIDS in Dar es salaam, Tanzania: A cross-sectional study. *Indian Journal of Otorhinolaryngology Head Neck Surg*. Vol.76(2024).**

   Doi:10.1007/s12070-024-04598-8.

   ABSTRACTHuman immunodeficiency virus/Acquired immunodeficiency virus (HIV/AIDS) is well known to be a major public health problem globally. On the other hand, HIV/AIDS is associated with various otorhinolaryngological manifestations. On the other hand, there has been a global reduction in the burden of otorhinolaryngological manifestations since the introduction of highly active antiretroviral therapy though there are limited studies on otorhinolaryngological manifestations among HIV/AIDS patients in Tanzania. A hospital based descriptive cross-sectional study was conducted at Ilala District in Dar es Salaam from November 2022 to March 2023 where 380 study participants were recruited using convenience sampling technique. Data was collected using pre-tested semi-structured questionnaires and analysis was done by means of Statistical Package for Social Sciences (SPSS) version 23. Of all the 380 patients recruited in this study, 22 (5.8%) had otorhinolaryngological manifestations. Most of the patients with otorhinolaryngological manifestations were males (6.1%) in the age group 0–9 years (23.1%) followed by those aged 10–19 years (18.8%). The commonest

otorhinolaryngological manifestations were allergic rhinitis (22.7%) and otitis externa (22.7%) followed by hearing loss (18.2%), Kaposi's sarcoma (13.7%), tonsillitis (9.1%), chronic suppurative otitis media, (4.5%) sinusitis (4.5%) and adenoid hypertrophy (4.5%). Otitis externa predominated in males (23.1%) while allergic rhinitis predominated in females (33.3%). Similarly, a significant association was found between the occurrence of otorhinolaryngological manifestations with CD4 counts (p-value = 0.001) and viral load (p-value = 0.000). Otorhinolaryngological manifestations among patients living with HIV/AIDS and on highly active antiretroviral therapy were less prevalent. Males outnumbered females in terms of being affected by otorhinolaryngological manifestations. Allergic rhinitis and otitis externa were the commonest otorhinolaryngological manifestations and most of participants with otorhinolaryngological manifestations had viral load of greater than 100 copies and CD4 counts of less than 200cells/mm3.

5. **Ottaru, T.A., Kwesigabo, G.P., Butt, Z., *et al*... (2024). Prevalence and Risk Factors for Renal Insufficiency among Adults Living with HIV in Tanzania: Results from a Cross-Sectional Study in 2020-2021. *Healthcare*. Vol. 12 (6).**

   Doi: 10.3390/healthcare12060657

   ABSTRACT

   With improved survival, adults living with HIV (ALHIV) are increasingly likely to experience age-related and HIV-related comorbidities, including renal insufficiency. Other risk factors for renal insufficiency (high blood pressure (BP), obesity, diabetes, and dyslipidemia) are also growing more common among ALHIV. To determine the prevalence of renal insufficiency (defined as an eGFR < 60 mL/min/1.73 m2) and factors associated with reduced eGFR, we conducted a cross-sectional study at six HIV clinics in Dar-es-Salaam, Tanzania. We applied multivariable (MV) ordinal logistic regression models to identify factors associated with reduced eGFR and examined the

interaction of age with BP levels. Among the 450 ALHIV on ART analyzed [26% males; median age 43 (IQR: 18–72) years; 89% on tenofovir-containing ART; 88% HIV viral load ≤50 copies/mL], 34 (7.5%) had renal insufficiency. Prevalence was higher among males (12%) vs. females (6%), p = 0.03; ALHIV ≥50 (21%) vs. <50 years (2.5%), p < 0.001; those with high [≥130/80 mmHg (15%)] vs. normal [<120/80 mmHg (4%)] BP, p < 0.01 and those with dyslipidemia (10%) vs. those without (4.5%), p < 0.03. After adjusting for covariates, age (in years) was the only covariate with a statistically significant association with reduced eGFR (OR = 1.09 (1.07–1.12), p < 0.001). No significant interaction between age and BP was found. Interventions to increase routine screening for renal insufficiency, especially among older ALHIV, and improve BP control are critical to reducing kidney disease-related morbidity and mortality.

Keywords: renal insufficiency; kidney disease; age; HIV infection; comorbidities; Tanzania.

6. **Alagbonsi, A.I., Essop, M.F., El-Wazir, Y., *et al*… (2024). PhysioCAFUN: A competency-based curriculum development guideline to strengthen physiology education in Africa.** ***Adv Physiol Educ*****.**

Doi: 10.1152/advan.00160.2024.

ABSTRACT

Physiology education in Africa faces challenges due to gaps in curricula across many of its universities, such as divergent content, a lack of standardized competencies, and suitable benchmarking. Here, we describe the development of the Physiology Curriculum for African Universities (PhysioCAFUN), a competency-based curriculum development guideline, as a first step to address such shortcomings. A committee of 15 physiologists from different African regions, Europe, and the United States was

constituted to draft the PhysioCAFUN, which was introduced and revised during the joint East African Society of Physiological Sciences (EASPS) and African Association of Physiological Sciences (AAPS) conference held in Tanzania late 2023. The PhysioCAFUN consists of 23 modules. *Modules 1–15* cover the organ systems, including principles and concepts of physiology, molecular biology, and cell physiology. *Modules 16–23* contain optional content, including environmental physiology, pharmacology, and topics related to skill development. PhysioCAFUN serves as a freely available resource document for African stakeholders regarding the desired undergraduate physiology training and competencies. It will help universities in Africa, and elsewhere to draft a curriculum suitable for their local needs where there is a dearth of physiologists or to benchmark and revise their curricula where physiology programs are already in place.**NEW & NOTEWORTHY:** We described the development of Physiology Curriculum for African Universities (PhysioCAFUN), a competency-based curriculum development guideline to promote physiology education in Africa. This freely accessible resource document should help African universities where there is a dearth of physiologists and thus aid in drafting a curriculum suitable for their local needs. Likewise, it should assist universities globally where physiology programs are already in place to benchmark and/or revise their curriculum as may be needed **introduction:** Physiology has been recognized as the basis for clinical medicine for centuries, but it was not until the mid-19th century that physiology courses became a formal part of medical education (1). About the same time, physiology became a scientific profession, marked by the rise of research laboratories and academic departments offering graduate degrees in Europe and the Americas. Africa has not kept up with the growth of professional physiology training, however, and only a few countries and a relatively small number of universities currently offer physiology as a degree program (Table 1). An alarmingly high number of African higher institutions do not yet have a physiology program, either at the

undergraduate or postgraduate levels, and as a result, the number of trained graduates is insufficient for the emerging need for physiologists as researchers and educators.

7. **Alhassan, A., Ajala, L.S., Ode, B., *et al*… (2024). Medical Research Circle Collaborators. Call for elimination program of Malaria among children under 5 years old living in refugee camps in eastern Democratic Republic of Congo. *New Microbes New Infect*. Vol.62.**

   Doi: 10.1016/j.nmni.2024.101508.

   ABSTRACT

   Malaria is a significant public health challenge in the Democratic Republic of the Congo (DR Congo), with a high prevalence and mortality rate, particularly among children under five years old. This study examines the impact of malaria in eastern DR Congo, where armed conflict and humanitarian crises have resulted in overcrowded refugee and internally displaced persons (IDP) camps, exacerbating malaria transmission. Malnutrition, limited access to healthcare, and poor living conditions makes children under the age of five particularly vulnerable. Despite attempts by organizations such as the World Health Organization and various non-governmental organizations to supply insecticide-treated bed nets and antimalarial drugs, implementation in refugee camps is impeded by war, resource constraints, and insufficient healthcare facilities. A focused elimination approach that includes integrated vector control, enhanced diagnostic access, healthcare professional training, and community engagement is critical. Surveillance and research are critical for determining malaria prevalence and resistance patterns. Effective malaria treatment in refugee camps necessitates broad strategies to protect vulnerable children and lower disease burdens.

Keywords: Antimalarial drugs Elimination program Children Democratic Republic of Congo Malaria

8. **Alimohamed, M.Z., Mnika, K., Adadey, S.M., *et al*… (2024). Advancing intercontinental collaboration in human genetics: success story of the African and European Young Investigator Forum. *European journal of human genetics*: *EJHG*, Vol.32 (1).**

Doi: 10.1038/s41431-023-01487-6

ABSTRACT

The field of human genetics has witnessed significant growth and advancements, leading to profound implications in understanding genetic diseases, population diversity, and personalized medicine. Advances in human genetics research rely heavily on international collaborations that encourage the cultivation and exchange of ideas, expertise, and resources. However, most of the genetic studies are largely Eurocentric [1]. Because Africa is a continent with the most genetically diverse populations, intercontinental collaboration is necessary to combat disparity in genetic studies [2]. The importance of international partnerships, particularly between Africa and Europe, has become increasingly recognized [3]. By embracing diversity, promoting inclusiveness, and creating networking opportunities, Africa and Europe can collectively contribute to advancements in human genetic research, personalized medicine, and global healthcare outcomes. This viewpoint highlights the establishment and activities of the Young Investigators Forum (YIF) in advancing global collaborations, engaging young investigators, and nurturing scientific talent in human genetic

9. **Ally, M., Kakoko, D.C., Swai, C., e*t al*… (2024). Caregivers' Perceived Threat of Sickle Cell Disease Complications and Its Association with Hydroxyurea Use**

Among Children with Sickle Cell Disease in Dar Es Salaam, Tanzania. ***Pediatric Health, MedicineandTherapeutics*****. Vol.15(385-395).**

Doi:10.1177/12063312231181534

ABSTRACT

Purpose: Tanzania is the fifth country with the highest sickle cell disease (SCD) prevalence globally. Although hydroxyurea (HU) is available, only 25% of persons with SCD are reported to use it in Tanzania. Perceived disease threat is associated with medication usage in patients with chronic diseases. We assessed the factors associated with caregivers' perceived threat of SCD complications and its relationship with HU use among children with SCD in Dar-es-Salaam. **Methods:** We conducted a cross-sectional hospital-based study from May to August 2023. We enrolled 374 caregivers of health-insured children with SCD from 4 public SCD clinics. We adapted the modified original and revised Champion's Health Belief Model Scales to derive perceived threat scores. We used Mann-Whitney and Kruskal-Wallis tests to compare the outcomes across sociodemographic characteristics and regression analysis for factors associated with perceived SCD threat. **Results:** The median score (Interquartile Range) for perceived threat of SCD complications was 559 (175, 598). Sixty-one percent of caregivers had a high SCD perceived threat. The caregivers of under-five children had 141 lower median SCD threat scores than those of children aged 13–17 years, p-value < 0.001. Participants from Regional Referral Hospitals (RRH) had lower median threat scores compared to participants attending Muhimbili National Hospital (MNH), 177 for Amana RRH, 325 Temeke RRH, 585 MNH Mloganzila, and 557 MNH Upanga, p-value <0.001. Children of caregivers with high perceived SCD threat were 3.4 times more likely to use HU compared to those with low SCD threat perception (Incidence Rate Ratio 3.4, 95% CI: 2.7–4.5). **Conclusion:** The perceived threat of SCD predicts the likelihood of SCD patients using HU in Dar-es-Salaam,

Tanzania. We recommend health education to caregivers aiming to improve their SCD threat perception and thus improve the use of HU among children with SCD in similar settings.

Keywords: Sickle cell disease hydroxyurea perceived threat

10. **Amani, D.E., Ndumwa, H.P., Ngowi, J.E., *et al*… (2024). National Non-Communicable Diseases Conferences-A Platform to Inform Policies and Practices in Tanzania. Ann Glob Health. Vol.90 (1).**

Doi: 10.5334/aogh.4112

ABSTRACT

Background: Non-communicable diseases (NCDs) arise from diverse risk factors with differences in the contexts and variabilities in regions and countries. Addressing such a complex challenge requires local evidence. Tanzania has been convening stakeholders every year to disseminate and discuss scientific evidence, policies, and implementation gaps, to inform policy makers in NCDs responses. This paper documents these dissemination efforts and how they have influenced NCDs response and landscape in Tanzania and the region. **Methods:** Desk review was conducted through available MOH and conference organizers' documents. It had both quantitative and qualitative data. The review included reports of the four NCDs conferences, conference organization, and conduct processes. In addition, themes of the conferences, submitted abstracts, and presentations were reviewed. Narrative synthesis was conducted to address the objectives. **Recommendations:** emanated from the conference and policy uptake were reviewed and discussed to determine the impact of the dissemination. Findings: Since 2019, four theme-specific conferences were organized. This report includes evidence from four conferences. The conferences convened researchers and scientists from research and training institutions, implementers, government agencies,

and legislators in Tanzania and other countries within and outside Africa. Four hundred and thirty-five abstracts were presented covering 14 sub-themes on health system improvements, financing, governance, prevention intervention, and the role of innovation and technology. The conferences have had a positive effect on governments' response to NCDs, including health care financing, NCDs research agenda, and universal health coverage. **Conclusion:** The National NCDs conferences have provided suitable platforms where stakeholders can share, discuss, and recommend vital strategies for addressing the burden of NCDs through informing policies and practices. Ensuring the engagement of the right stakeholders, as well as the uptake and utilization of the recommendations from these platforms, remains crucial for addressing the observed epidemiological transition in Tanzania and other countries with similar contexts.

Keywords: non-communicable diseases (NCDS), NCDs conferences, NCDs policies, Tanzania.

11. **Ashour, A., Amen, Y., Allam, A.E., *et al*… (2024). the peels of sacred Lotus (Nelumbo nucifera) rhizomes suppress allergic reactions by inhibiting the A23187-induced degranulation in rat basophilic leukemia (RBL–2H3) cells. *Fitoterapia.* Vol.178.**

Doi: 10.1016/j.fitote.2024.

ABSTRACT

Objective: We isolated ten compounds from methanolic extract of the peels of sacred lotus (Nelumbo nucifera) rhizomes which were identified as β-sitosterol linoleate 1, β-sitosterol 2, lupeol 3, stigma sterol 3-O-β-D-glucoside 4, oleanolic acid 5, betulinic acid 6, pinoresinol 7, 4-hydroxybenzoic acid 8, catechin 9 and gallocatechin 10. All of the isolated compounds from the peels of sacred lotus rhizomes are reported for the first

time, and were investigated for their anti-allergic activity. We found that three of them, stigma sterol 3-O-β-D-glucoside 4, oleanolic acid 5 and pinoresinol 7, were capable of inhibiting A23187-induced degranulation in RBL-2H3 cells with IC50 values 0.18 ± 0.01 mM, 0.28 ± 0.06 mM, and 0.27 ± 0.01 mM, respectively. With an exception to 4, compounds 5 and 7 achieved the anti-allergic effect without affecting the cells viability even at higher concentrations with their selectivity indices (SI) being >5. By reducing A23187-induced degranulation, it is suggestive of a mechanism attenuation of Ca2+ elevation. Our findings suggest that, the peels of sacred lotus rhizomes would be beneficial for providing an inexpensive source for the production of bioactive compounds with anti-allergic effect.

12. **Athman, L.P., Jonathan, A., Mussa, F., *et al*… (2024). Depression Prevalence and Associated Factors among Adolescents with Sickle Cell Anemia in Dar es Salaam, Tanzania: A Cross-Sectional Study.**

Doi: 10.21203/rs.3.rs4693535/v1

ABSTRACT

Background: Depression commonly arises among adolescents who have experienced long-standing psychosocial difficulties especially those facing chronic illnesses like Sickle Cell Anemia (SCA). SCA is a global health concern, and Tanzania is one of the countries with a high incidence, estimated at 8,000 to 11,000 births per year. This study aims to assess the magnitude and factors associated with depression among adolescents with SCA**. Methodology**: A cross-sectional analytical study conducted on adolescents aged 11-19 years attending sickle cell clinics in referral hospitals in Dar-es-salaam Tanzania, from October 2023-March 2024. A validated Patient Health Questionnaire (PHQ-9) tool was used to screen for depression. University and multivariate regression model was used to determine factors associated with clinical

depression. A P value of less than 0.05 was considered statistically significant. **Results:** Among 326 adolescents enrolled, the majority (64.7%) were 10-14 years of age. A total of 216 (54 %) had depression; when categorized into severity, 167 (38.7 %) had mild, 48 (14.7 %) had moderate and 1 (0.3%) had severe depression. Clinical depression, encompassing moderate to severe depression, was prevalent in 49 (15%) adolescents. Painful episodes were significantly associated with depression (aOR = 2.49) (95% CI: 1.17 - 5.29, p = 0.01). **Conclusion:** Depression is common among adolescents with SCA in our setting. Painful episodes experienced by these adolescents were significantly associated with depression. This study highlights the need for screening adolescents with SCA for depression and integration of mental health services in sickle cell clinics.

Keywords: Depression, adolescents, sickle cell anemia, clinical depression

13. **Bachwenkizi, J., Shabani, S., Nyarubeli, I.P., e*t al*… (2024). Chemical Concentrations, Source Emission, Potential Toxicity, and Health Risk of Ambient Fine Particulate Matter and Its Constituents: A Recent Literature Review. *Current Pollution Reports*. Vol. 11(2).**

Doi: 10.1007/s40726-024-00332-8

ABSTRACT

Introduction: Ambient fine particulate matter ($PM_{2.5}$) is a significant environmental and public health concern. Chemical concentrations and toxicity of $PM_{2.5}$ vary depending on its sources and environmental conditions, necessitating a detailed understanding of their characteristics and respective health impacts. **Methodology:** A scientific literature search was conducted using different sources such as PubMed, Web of Science, Scopus, and Google Scholar, covering publications from January 2020 to May 2024. The search terms included ambient fine particulate matter,

$PM_{2.5}$ chemical constituent, health effects of $PM_{2.5}$, sources of $PM_{2.5}$, and other related keywords. **Results:** The review identified various concentrations of $PM_{2.5}$ ranging between (10–250 μg/m^3), and their chemical constituents such as SO_4^{2-} (1.0–25.0 μg/m^3), NO_3^- (0.3–20 μg/m^3), NH_4^+ (0.2–1.5 μg/m^3), OM (1–35 μg/m^3), and BC (0.5–40 μg/m^3), metals, and trace elements. Major sources of $PM_{2.5}$ identified include vehicle emissions, industrial processes, residential heating, and natural phenomena. Health effects associated with $PM_{2.5}$ exposure encompassed respiratory and cardiovascular diseases, adverse pregnancy outcomes, and neurological disorders. The toxicological profiles of specific chemical components were highlighted, and the potential mechanisms underlying these health effects were discussed. **Conclusion:** The findings emphasize the need for targeted mitigation strategies to reduce $PM_{2.5}$ emissions concentrations and exposure. Future research should focus on advancing analytical techniques for pollutant dispersion and evaluating the effectiveness of intervention measures.

Keywords Source emission Toxicity Fine particulate matter $PM_{2.5}$ chemical constituent

14. **Balandya, B., Be? Ova, L., Kikula, A., *et al...* (2024). Prevalence of infertility and its association with intimate partner violence in Tanzania: Findings from the 2022 Demographic and Health Survey. *Int J Gynaecology Obstet.***

Doi:10.1002/ijgo.16014.

ABSTRACT

Objective: We first estimated the prevalence of primary and secondary infertility in Tanzania and then examined its association with recent experiences of intimate partner violence (IPV). **Methods:** We used cross-sectional data from the Tanzania Demographic and Health Survey 2022 and included 6894 women aged 20–49 years to

estimate the prevalence of primary and secondary infertility. In a subset of 2802 partnered women who were surveyed about physical, emotional, and sexual IPV, we also examined the association of any form of IPV in the 12 months prior to the survey with both primary and secondary infertility using multivariable logistic regression. **Results:** The prevalence of primary infertility was 1.8% (95% confidence interval [CI]: 1.0, 3.1) and secondary infertility was 15.4% (95% CI: 2.1, 61.0). Primary infertility was higher in urban areas (1.9%) compared to rural areas (1.7%) ($P < 0.001$). Over one-third (37.9%) of the women who were surveyed concerning IPV reported experiencing at least one form of IPV in the 12 months prior to the survey. Almost one-fifth (18.3%) of women with secondary infertility had experienced at least one form of violence in the past 12 months prior to the survey, compared to 1.5% with primary infertility ($P = 0.656$). Women with secondary infertility were 1.58 times more likely to have experienced any form of IPV (aOR = 1.58, 95% CI: 1.08, 2.33). **Conclusions**: In Tanzania, the high prevalences of both infertility and IPV and the link between the two warrants the need for strengthening infertility care and treatment and support for women experiencing IPV.

15. **Bamodu, O.A. and Chung, C.C. (2024). Cancer Care Disparities: Overcoming Barriers to Cancer Control in Low-and Middle-Income Countries. *JCO Global Oncology*. Vol. 10.**

    Doi: 10.1200/GO.23.00439.

    ABSTRACT

    Introduction: The rising global burden of cancer disproportionately affects low- and middle-income countries (LMICs), which account for over half of new patients and cancer deaths worldwide. However, LMIC health systems face profound challenges in implementing comprehensive cancer control programs because of limited health care

resources and infrastructure. This analytical review explores contemporary evidence on barriers undermining cancer control efforts in resource-constrained LMIC settings. We conducted a comprehensive literature review of peer-reviewed evidence on cancer control challenges and solutions tailored to resource-limited settings. We provide a conceptual framework categorizing these barriers across the cancer care continuum, from raising public awareness to palliative care. We also appraise evidence-based strategies proposed to overcome identified obstacles to cancer control in the published literature, including task-shifting to no specialist health workers, strategic prioritization of high-impact interventions, regional collaborations, patient navigation systems, and novel financing mechanisms. Developing strong primary care delivery platforms integrated with specialized oncology care, alongside flexible and resilient health system models tailored to local contexts will be critical to curb the rising tide of cancer in resource-limited settings. Urgent global commitments and investments are needed to dismantle barriers and expand access to prevention, early detection, and diagnosis, treatment, and palliation services for all patients with cancer residing in LMICs as an ethical imperative. The review elucidates priority areas for policy actions, health systems strengthening, and future research to guide international efforts toward more equitable cancer control globally.

16. **Barabona, G., Ngare, I., Kamori, D., *et al*… (2024). Neutralizing immunity against coronaviruses in Tanzanian health care workers. *Sci Rep*. Vol.14(1).**

    Doi:10.1038/s41598024559894.

    ABSTRACT

    The ongoing vaccination efforts and exposure to endemic and emerging coronaviruses can shape the population's immunity against this group of viruses. In this study, we investigated neutralizing immunity against endemic and emerging coronaviruses in 200 Tanzanian frontline healthcare workers (HCWs). Despite low vaccination rates

(19.5%), we found a high SARS-CoV-2 seroprevalence (94.0%), indicating high exposure in these HCWs. Next, we determined the neutralization capacity of antisera against human coronavirus NL63, and 229E, SARS-CoV-1, MERS-CoV and SARS-CoV-2 (including Omicron sub variants: BA.1, BQ.1.1 and XBB.1.5) using pseudo virus neutralization assay. We observed a broad range of neutralizing activity in HCWs, but no neutralization activity detected against MERS-CoV. We also observed a strong correlation between neutralizing antibody titers for SARS-CoV-2 and SARS-CoV-1, but not between other coronaviruses. Cross-neutralization titers against the newer Omicron sub variants, BQ.1.1 and XBB.1.5, was significantly reduced compared to BA.1 and BA.2 sub variants. On the other hand, the exposed vaccinated HCWs showed relatively higher median cross-neutralization titers against both the newer Omicron sub variants and SARS-CoV-1, but did not reach statistical significance. In summary, our findings suggest a broad range of neutralizing potency against coronaviruses in Tanzanian HCWs with detectable neutralizing immunity against SARS-CoV-1 resulting from SARS-CoV-2 exposure.

17. **Carey-Ewend, K., Popkin-Hall, Z.R., Simkin, A., *et al*… (2024). Population genomics of Plasmodium ovale species in sub-Saharan Africa. *Nat Common*. Vol. 15.**

Doi:10.1038/s41467-024-54667-3.

ABSTRACT

Plasmodium ovale Curtis (*Poc)* and *Plasmodium ovale walker* (*Pow*) are relapsing malaria parasites endemic to Africa and Asia that were previously thought to represent a single species. Amid increasing detection of ovale malaria in sub-Saharan Africa, we present a population genomic study of both species across the continent. We conducted whole-genome sequencing of 25 isolates from Central and East Africa and analysed

them alongside 20 previously published African genomes. Isolates are predominantly monoclonal (43/45), with their genetic similarity aligning with geography. *Pow* shows lower average nucleotide diversity (1.8×10^{-4}) across the genome compared to *Poc* (3.0×10^{-4}) ($p < 0.0001$). Signatures of selective sweeps involving the dihydrofolate reductase gene have been found in both species, as are signs of balancing selection at the merozoite surface protein 1 gene. Differences in the nucleotide diversity of *Poc* and *Pow* may reflect unique demographic history, even as similar selective forces facilitate their resilience to malaria control interventions.

18. **Charles, A.J, Majigo, M., Makupa, J.E., e*t al*... (2024). Occurrence of virulence genes icaADBC and antibiotic resistance genes blaZ, mecA, and aac(6')-Ie-aph (2'')-Ia in coagulase-negative staphylococci isolates from neonates with sepsis at a regional referral hospital in Dar es Salaam, Tanzania. *Bulletin of the National Research Centre.* Vol. 48(1).**

    Doi: 10.1186/s42269-024-01271-6.

    ABSTRACT

    Background: Coagulase-negative staphylococci (CoNS) have been linked to severe conditions such as bloodstream infection, with biofilm formation regarded as the major virulence mechanism. This study determined virulence genes (VGs) (*icaA*, *icaB*, *icaC*, and *icaD*) responsible for biofilm formation and antibiotic resistance genes (ARGs) (*blaZ*, *mecA,* and *aac(6')-Ie-aph(2'')-Ia*) in CoNS isolated from blood samples of 70 neonates with sepsis in Dar es Salaam, Tanzania. We used VITEK®MS (BioMérieux, France) for speciation and phenotypically detected biofilm production using the Congo red agar. Polymerase chain reaction was performed for ARGs and VGs detection; principal component analysis was used to ascertain their relationship. **Results** Out of 70 CoNS, *Staphylococcus epidermidis,* 27 (36.8%) was the most commonly isolate,

subsequently to *Staphylococcus haemolyticus,* 24 (34.3%). The intercellular adhesion genes (*ica*) were detected in all isolates, with *IcaD* found in 70 (100.0%), followed by *icaB* 69 (98.6%), *icaC* 69 (98.6%), and *icaA* 65 (92.9%). Four virulence gene combinations (*icaADBC*, *icaBCD*, *icaACD,* and *icaABD)* were detected, predominantly *icaADBC* 63 (90.0%). Sixty-one (87.1%) isolates harbored three ARGs, mostly the *mecA* gene 69 (98.6%), followed by *blaZ* 67 (95.7%) and *aac (6')-Ie-aph (2'')-Ia,* 65 *(*92.7%). We observed a moderate positive correlation between *mecA* and *icaA* genes ($r = 0.4341$). Sixty-five (97.0%) isolates resistant to penicillin harbored *blaZ* genes, and all 62 (100%) resistant to oxacillin harbored *mecA* genes. Of the 66 isolates resistant to gentamycin, 62 (93.9%) harbored the *aac (6')-Ie-aph (2'')-Ia* gene. The *mecA* gene contributed most of the resistance, followed by *aac(6')-Ie-aph(2'')-Ia* genes. However, the *icaA* and *icaD* genes significantly influenced the virulence of CoNS. **Conclusions** Most CoNS isolated from blood samples of neonates with sepsis harbor a variety of clinically relevant virulence and resistance genes, indicating their ability to cause severe infections that are difficult to treat. Significantly, 59 (84.3%) isolates were phenotypically penicillin, gentamycin, and oxacillin resistant; the antibiotics recommended in the national guidelines for empiric treatment of neonatal sepsis.

Keywords: CoNS Antibiotic resistance Virulence genes Neonates

19. **Chebet, J.J., Akyoo, W.O., Goymann, H., *et al*… (2024). demonstrating service delivery models for effective initiation and retention on pre-exposure prophylaxis (PrEP) among female bar workers in Dar es Salaam, Tanzania: A double randomized intervention study protocol. *Plos one.* Vol. 19(6).**

Doi: 10.1371/journal.pone.

ABSTRACT

Background: Pre-Exposure Prophylaxis (PrEP) has demonstrated efficacy in preventing HIV infection. Female Bar Workers (FBWs) often act as informal sex workers, placing them at risk of HIV infection. Despite expressing interest in PrEP, FBWs face barriers to accessing public-sector clinics where PrEP is delivered. We developed a study to compare the effectiveness of workplace-based PrEP provision to standard-of-care facility-based provision for PrEP initiation, retention and adherence among FBWs**. Methods**: In this double-randomized intervention study, FBWs aged 15 years and above will be screened, consented and initiated on PrEP (emtricitabine/tenofovir disoproxil), and followed for six months. Participants will be randomized at the bar level and offered PrEP at their workplace or at a health facility. Those who are initiated will be independently individually randomized to either receive or not receive an omni-channel PrEP champion intervention (support from an experienced PrEP user) to improve PrEP adherence. We expect to screen 1,205 FBWs to enroll at least 160 HIV negative women in the study. Follow-up visits will be scheduled monthly. HIV testing will be performed at baseline, month 1, 4 and 6; and TDF testing at months 2 and 6. Primary outcomes for this trial are: (1) initiation on PrEP (proportion of those offered PrEP directly observed to initiate PrEP); and (2) adherence to PrEP (detectable urine TDF drug level at 6-months post-enrollment). The primary outcomes will be analyzed using Intention-to-Treat (ITT) analyses. **Discussion:** Using a randomized trial design, we will evaluate two interventions aiming to reduce barriers to uptake and retention on PrEP among FBWs, a vulnerable population at risk of HIV acquisition and onward transmission. If these interventions prove effective in promoting PrEP among FBWs, they could assist in abating the HIV epidemic in Africa.

20. **Chhetri, S.B., Nance, D., Loya, M., e*t al*… (2024). Evidence of SARS-CoV-2 Spread in Rural Tanzania During the First 6 Months of the Global COVID-19 Pandemic. *Am J Trop Med Hyg.* Vol.112(1).**

Doi: 10.4269/ajtmh.23-0784.

ABSTRACT

In the first 6 months of the coronavirus disease 2019 pandemic, limited testing clouded understanding of the extent of severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) transmission in Africa. In particular, Tanzania halted all testing and reporting of SARS-CoV-2 cases after May 2020, not resuming until June 2021. In July-August 2020, we performed a seroprevalence survey in rural Bagamoyo district, 40 km outside Dar es Salaam. Among 347 asymptomatic children and adults, 64/347 (18.0%) demonstrated seroreactivity to SARS-CoV-2 spike receptor binding domain by ELISA. Given significant antibody cross-reactivity in malaria-endemic regions, seropositivity was additionally confirmed via a multitarget Luminex immunoassay. Thirty-seven, or 58% of initially seroreactivity persons, were Luminex positive, leading to an estimated SARS-CoV-2 seroprevalence of 10.7% (37/347, 95% CI 7.6-14.4%). Working in health care appeared to be associated with seropositivity. Reporting of viral symptoms or health care-seeking behaviour in the previous 3 months was not more frequent in seropositive individuals.

21. **Chikwala, V.Z., Massae, A.F., Mushy, S.E. *et al*… (2024). Perspectives of providing magnesium sulfate to patients with preeclampsia and eclampsia: A qualitative study amongst nurse-midwives in Dar es Salaam, Tanzania. *Plos one*.Vol.19(8).**

Doi: 10.1371/journal. Pone.

ABSTRACT

Background: Preeclampsia and eclampsia are among the leading direct causes of maternal death and morbidity worldwide. Up to 34% of maternal deaths in Tanzania

are due to preeclampsia/ eclampsia. Magnesium sulfate is recommended for preventing and treating convulsions in women with Preeclampsia or eclampsia. However, evidence suggests limited knowledge of its dosage and proper toxicity assessment after administration among health care providers. Aim of the study this study explored nurse-midwives' perspectives on providing MgSO4 to patients with preeclampsia or eclampsia in Tanzania. **Materials and methods**: A descriptive exploratory qualitative study using in-depth interviews was conducted to understand nurse-midwives' perspectives on providing magnesium sulfate to patients with PE/E. Nineteen nurse-midwives were interviewed from three hospitals in the Dar es Salaam region. We used a semi-structured interview guide in Kiswahili language to collect data. All interviews were digitally recorded and transcribed verbatim. We analyzed data using inductive content analysis. **Results**: This study revealed that nurse-midwives provide magnesium sulfate to save the lives of women and their unborn children. Nurse-midwives reasoned that confidence in their skill enhances provision of magnesium sulfate. However, they were concerned about its effect on the progress of labour. Ineffective use of magnesium sulfate emerged from inadequate training, an unsupportive work environment, and underutilization of the existing guidelines. **Conclusion:** Nurse-midwives have clear drive to provide magnesium sulfate to women with preeclampsia or eclampsia. However, inadequate training, underutilization of guidelines and unsupportive work environment lead to ineffective use of magnesium sulfate. Targeted practical training should be emphasized for nurse-midwives mastery of clinical competencies.

22. **Chiloleti, G. Mlatie, I. Sobbo, S. (2024). Dual treatment approach for leiomyomas of urinary bladder: Experience from tertiary hospital.** ***International Journal of Surgery Case Reports.*** **Vol.123.**

    Doi: 10.1016/j.ijscr.2024.110316.

ABSTRACT

Introduction and importance: Leiomyomas are rare, benign mesenchymal tumors. They represent 1 to 5 % of all urinary bladder tumors. 20 % are asymptomatic, but most presentations are voiding and storage, followed by hematuria. Surgery has been reported to be a standard treatment, depending on the size of the tumor and its location in the bladder. The following case report, we discuss the case of a bladder leiomyoma presenting with storage and voiding symptoms and managed with dual approach of Transurethral resection of bladder tumor (TURBT) and open urethrotomy. **Case presentation:** A 39-year-old female who presented with a one-year history of total hematuria and a blood clot that was ovoid in shape presented with urge incontinence, nocturia, strain during urination, and incomplete bladder emptying. She was mildly anemic, afebrile, with no palpable peripheral lymph node and no palpable mass. PVE revealed an anteriorly located cervix. The patient's Labs revealed to have moderate anemia of 8 g/dl, blood chemistry was uneventful, and ultrasound (USS) revealed that both kidneys were normal. The urinary bladder was well distended, with a mass located at the base, measuring 4.13 cm × 4.14 cm. MRI revealed a well-circumscribed intramural tumor on the left side measuring 4.3 cm × 4.2 cm, close to the bladder neck.A cystoscopy was used to visualize the tumor from the left lateral wall at 3 o'clock, extending to 5 o'clock, and part of the bladder neck. The tumor was solid, easily bled, and had an irregular margin, and the bladder mucosa was normal.The 1st TURBT was used for diagnosis; although she still persistent storage and voiding symptoms, she subsequently underwent 2nd TURBT, which was resected to completion with the aid of ventral urethrotomy. After the TURBT, tumor protruded into the urethra, complete excision was performed through the urethra due to extension of the tumor to the urethra. The patient's postoperative events were uneventful, and the patient was discharged with catheter care for 10 days. On follow-up, hematuria resolved, and there were no lower urinary tract symptoms. **Clinical discussion:**

Leiomyoma of the urinary bladder is a rare, benign mesenchymal tumor. They are the most common type of tumor of the urinary bladder. The most common presentations are storage and voiding symptoms, and hematuria. The initial USS can be used, and CT IVU or MRI is necessary for surveillance of the upper tract, possibly with respect to the tumor location in relation to the ureteric orifice. Tumors can be endovesical, intramural or extravesical, resulting in different presentations. Some tumors are pedunculated and can move close to the bladder neck or even at the urethra and present with urinary retention. Leiomyomas are surgically excised, and sometimes via a dual approach, transurethral resection of bladder tumors is important. These patients have a very low recurrence rate and are symptom free, and they have a good prognosis. **Conclusion:** Leiomyomas are surgically excised, and sometimes via a dual approach, transurethral resection of bladder tumors is important. These patients have a very low recurrence rate and are symptom free, and they have a good prognosis. **Keywords:** Transurethral resection of bladder tumor Cystoscopy Leiomyoma Bladder tumor Ventral urethrotomy Bladder neck.

23. **Chiloleti, G., Mlatie, I., Sobbo, S., *et al*… (2024). Dual treatment approach for leiomyomas of urinary bladder: Experience from tertiary hospital. *International Journal of Surgery Case Reports*.Vol. 123.**

    Doi: 10.1016/j.ijscr.

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24. **Chiloleti, G., Mtaturu, G., Mchele, G., *et al*… (2024). Successful posterior urethroplasty with gracilis muscle flap interposition and a VY gluteal flap of the perineal wound gap following abdominal-perineal resection: A case report. *International Journal of Surgery Case Reports*. Vol.123.**

ABSTRACT

An iatrogenic urethral perineal fistula can cause challenging problems for surgical reconstruction. In most cases, treatment is performed in three steps: double-diversion urinary and intestinal diversion, closure, and diversion. The augmented posterior urethroplasty interposition with a gracilis muscle function flap for the repair of the perineal gap was successful. Case presentation we reviewed a patient aged 42 years old male who presented to the urology department with leakage of urine per perineum after abdominal perineal resection and end colostomy due to anal-rectal malignancy 2 months earlier. He subsequently had a gapped perineal wound post abdominal-perineal resection (APR). Suprapubic Cystostomy and urethral catheter and a cystoscope showed a normal verumontanum, and there was a left para-verumontanum fistula approximately 3 cm in size that communicated with the perineum gapped wound. Tissue histology revealed chronic inflammation. Augmentation posterior urethroplasty with interposition of the gracilis muscle flap. Clinical discussion Urethral perineal fistulas have different etiologic origins, such as inflammatory, neoplastic, traumatic, or iatrogenic injury. Treatment is performed in three steps: double diversion

urinary and intestinal, closure, and no diversion. In our case, the perineal gapped wound allowed us to access the posterior urethra and this potential space for gracilis muscle interposition, aiming to facilitate fistula repair and cover perineal gap wound repair. **Conclusion:** Posterior urethral perineal fistulas can be repaired by a gracilis muscle flap, providing acceptable treatment results. However, more research is needed in fistula studies evaluating patients' sexual and urinary efficiency to achieve more accurate results.

Keywords: Gracilis muscle flap Augmented posterior urethroplasty V-Y gluteal flap Cystoscopy

25. **Chiloleti, G., Mtaturu, G., Mchele, G., *et al*… (2024). Successful posterior urethroplasty with gracilis muscle flap interposition and a V Y gluteal flap of the perineal wound gap following abdominal-perineal resection: *A case report*. Vol.123.**

Doi.org/10.1016/j.ijscr.2024.110280.

ABSTRACT

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Keywords: Gracilis muscle flap augmented posterior urethroplastyV-Y gluteal flap Cystoscopy

26. **Chirande, L.F., Namazi, R., Hockenberry, M., *et al*… (2024). Building Capacity for Pediatric Haematological Diseases in Sub-Saharan Africa. *Blood Adv*. Vol.9(4).**

Doi:10.1182/bloodadvances.2024012983.

ABSTRACT

The spectrum of hematological diseases in African children includes anemias, bleeding disorders, thromboses, and oncological diseases such as leukemias. Although data are limited, outcomes for these diseases are poorer in Africa. The dearth of specialists, and lack of infrastructure that supports diagnosis and management, have been identified as key barriers to improving outcomes for childhood haematological disorders in Sub-Saharan Africa (SSA). To address these, intentional capacity building efforts addressing education and training, diagnostic capacity, and access to blood products

and medicines are needed. This article explores some ongoing efforts in the region aimed at fostering the capacity to identify and treat childhood hematological disorders across a breadth of initiatives targeting the critical themes of education, diagnostic support, and treatment. We also identify existing opportunities through international partnerships, to build sustainable programs that can support children with haematological diseases in SSA.

27. **Chona, E.Z., Kayange, L.F., Iseselo, M.K., (2024). Factors Associated With Satisfaction With Diabetes Care Among Patients Attending Public Diabetic Clinics in Dar es Salaam, Tanzania: A Cross-Sectional Study.** ***Public Health Challenges*****. Vol.3(3).**

Doi: 10.1002/puh2.70002

ABSTRACT

Background: Diabetes is a major public health problem worldwide, currently affecting more than 537 million people. The disease is associated with high morbidity and mortality rates. Modern diabetes care has evolved toward more patient-centered approaches, emphasizing individualized treatment plans and targets. This study sought to assess the level of satisfaction with diabetes care and related factors among patients attending public diabetes clinics in Dar es Salaam, Tanzania. **Methods:** This descriptive cross-sectional study used a simple random sampling method to recruit 423 diabetic patients from May to October 2023. Data collection was conducted using a structured questionnaire administered by an interviewer. The collected data were coded and analyzed using Statistical Package for the Social Sciences (SPSS) version 25. **Results:** The mean (±SD) age of participants was 58.7 (±11.68) years. About half (51.1%) of participants reported being satisfied with the diabetes care provided, 26.2% were very satisfied, and 22.7% were dissatisfied. Participants who usually spend 1–3 h

pursuing services at the facilities had 0.40 less odds of being dissatisfied with diabetes care offered at the clinics compared to those who spend more than 3 h on each attendance (adjusted odds ratio [adjusted OR] 0.40, 95% confidence interval [CI] 0.21–0.76, p = 0.005). For each one-unit increase in the communication subscale score, the likelihood of satisfaction (as opposed to being very satisfied) increased (adjusted OR 1.23, 95% CI 1.09–1.38, p = 0.001). Each one-unit increase in the accessibility subscale score increased the probability of satisfaction (adjusted OR 1.12, 95% CI 1.02–1.24, p = 0.023) and decreased the probability of dissatisfaction (adjusted OR 0.85, 95% CI 0.76–0.95, p = 0.004). **Conclusion:** These findings highlight the importance of effective communication and accessibility in improving patient satisfaction with diabetes care in public clinics. Health facilities and allied stakeholders should engage in continual capacity building among healthcare providers. Furthermore, other studies should be conducted at different levels of health facilities across the country to capture new insights on the satisfaction of homogenous sub-groups of patients.

28. **Chrisant, E.M., Khamisi, R.H., Muhamba, F., *et al*… (2024). Assessing the accuracy of the revised Cardiac Risk Index compared to the American Society of Anesthesiologists physical status classification in predicting Pulmonary and Cardiac complications among non-cardiothoracic surgery patients at Muhimbili National Hospital: a prospective cohort study. *BMC surgery*. Vol. 24 (1).**

ABSTRACT

Background: The Revised Cardiac Risk Index (RCRI) and the American Society of Anesthesiologists (ASA-PS) classification system are two commonly used tools for preoperative risk assessment. This study aimed to assess the accuracy of RCRI compared to the ASA-PS classification system in preoperative risk assessment for pulmonary and cardiac problems among non-cardiothoracic surgery patients admitted

at Muhimbili National Hospital (MNH). Methods: This was a prospective cohort study design conducted from August 2022 to April 2023 among 184 patients of 18 years and above admitted at MNH for elective non-cardiothoracic surgery. Data Analysis was conducted using STATA software version 16. Means and standard deviations were used to summarize continuous data. Frequencies and percentages were used to summarize categorical data. The logistic regression and ROC curve analysis were used to determine the correlation between variables. **Results:** The majority of patients (43.3%) had an RCRI score of 1 point, and 39.9% were classified as ASA class 1. Patients in ASA classes 3 and 4 had higher odds of developing cardiac and pulmonary complications (AUC = 0.75 and 0.77, respectively). Patients with an RCRI score of 2 or ≥ 3 points were also more likely to experience cardiac and pulmonary complications (AUC = 0.73 and 0.72, respectively). There was no significant difference in the predictive ability of the two tools. Both RCRI and ASA-PS classification systems were equally effective in predicting these complications. **Conclusion:** Both the RCRI and the ASA-PS classification system demonstrated good predictive ability for cardiac and pulmonary complications among patients undergoing non-cardiothoracic surgery.

29. **Chuwa, L., Metta, E. and Frumence, G., (2024). Inspection Practices for Regulating Prescription Handling and Antibiotics Control in Ilala Community Pharmacies of Dar es Salaam, Tanzania: Qualitative Assessment.** ***Tanzania Journal of Health Research*****. Vol. 25(3).**

Doi: 10.4314/thrb.v25i3.

ABSTRACT

Aim: The study aimed to explore inspection practices of prescription handling and antibiotics control in the context of Tanzania's community pharmacies. **Design:** Qualitative exploratory study. **Methods:** This qualitative study held 14 in-depth

interviews with pharmacists (three), pharmaceutical technicians (seven), and pharmacy council representatives (four) to collect data on the inspection processes for regulating prescription handling and antibiotic control in community-based pharmacies. The data was then subjected to content analysis with the help of NVivo12.**Results:** The study found that even though routine inspections were conducted to regulate prescription handling and antibiotic control in community pharmacies, there were inconsistencies in prescription retention, inadequate documentation in the inventory system, and improper antibiotic storage, with less attention paid to inspecting antibiotic sales practices. Implicitly, the efficiency and effectiveness of such inspections were open to question. Moreover, many clients frequented these visits to community pharmacies without prescriptions, yet they were dispensed with non-over-the-counter antibiotics. Furthermore, there were generally disparities between regulatory expectations and practical implementation in community pharmacies. **Conclusion:** More emphasis is necessary on antibiotic prescriptions and retention in community pharmacies coupled with standardized inspection protocol to help enhance inspection regulation activities and promote better dispensing practices for prolonged medicine life, improved efficacy, and health outcomes.

30. **Clemence, P., Moshiro, R., Manji, K. (2024). Validity of BiliDx as a point-of-care bilirubin measurement device to diagnose and monitor neonatal jaundice at Muhimbili National Hospital, an observational study. *BMC pediatrics*. Vol.24 (1).**

    Doi: 10.1186/s12887-02404565-w.

    ABSTRACT

    Background: Neonatal jaundice is a condition caused by elevated levels of bilirubin in the bloodstream. Laboratory determination of serum bilirubin concentration by total serum bilirubin (TSB) test is still considered as gold standard for clinical guidance and

practice. In developed countries, diagnosis of neonatal jaundice is shifting towards point-of-care medical devices. BiliDx is a device developed to allow a fast, blood-based determination of bilirubin levels at the point of care. This study aimed to determine the accuracy of the BiliDx device relative to a standard laboratory total serum bilirubin to diagnose and monitor jaundice among neonates admitted at Muhimbili National Hospital (MNH). Material and methodology: This was a prospective hospital-based observational study conducted at the Neonatal Ward – MNH, Dar-es-Salaam, Tanzania from November 2022 to January 2023. A total of 180 neonates admitted at the neonatal ward with jaundice and whose parents consented were enrolled in the study. Blood samples were collected; 2 ml of venous blood into the vacutainer bottle for standard laboratory measurement of total serum bilirubin (TSB) and 25μL blood collected into a transfer pipette tube and applied to BiliDx. STATA version 15.1 was used for data analysis. **Results:** Out of 180 neonates, 39.4% (71/180) had birth weight between 1500 − 2499.9 g, approximately 2/3rd (120/180) were preterm, 92/180 (51.1%) were males and 100/180 (55.6%) were undergoing phototherapy treatment the moment sample taken. The mean bilirubin concentration was 92 mmol/l for BiliDx and 118 mmol/l for standard laboratory TSB. The minimum and maximum values obtained with BiliDx were, 3.4 and 427.5 mmol/l respectively, compared with 10.7 and 382.1 mmol/l using standard laboratory TSB. A linear relationship and correlation coefficient of 0.8408 ($p = 0.000$) between BiliDx and standard laboratory TSB was found. The regression analysis showed the presence of constant error [coefficient of BiliDx/slope = 0.91, 95% CI (0.82–0.99), $p = 0.000$] and random error exclusively [coefficient of constant/y-intercept = 48.52, 95%CI (37.70-59.34), $p = 0.000$]. The Bland–Altman plot showed an acceptable mean difference of 39.1mmol/l, limits of agreement of -48.3mmol/l to 126.4mmol/l, and 179 points (179/180 = 99.4%) lying inside the limits of agreement. **Conclusion:** The results support the use of BiliDx for rapid and accurate testing of elevated levels of bilirubin

in the bloodstream among neonates since 99.4% of the differences between BiliDx and standard laboratory TSB lie between the lines of agreement.

31. **Conserve, D.F., Abu-Ba'are, G.R., Janson, S., *et al*… (2024). Development and feasibility of the peer and nurse-led HIV Self-Testing Education and Promotion (STEP) intervention among social networks of men in Dar es Salaam, Tanzania: application of the ADAPT-ITT model. *BMC health services research*. Vol.24(1).**

    Doi: 10.1186/s12913024115869

    ABSTRACT

    Background: According to the 2016–2017 Tanzania HIV Impact Survey, only 45% of men living with HIV (MLWH) were aware of their HIV status. In an effort to increase HIV testing in Tanzania, including among men, the Government of Tanzania passed a law in December 2019 allowing HIV self-testing (HIVST) to be included in the national testing strategies. The objective of this paper is to describe the development and pilot feasibility assessment of the Self-Testing Education and Promotion (STEP) intervention, which includes male peer education and demand creation for HIVST, and nurse-led distribution of HIVST kits in a community setting. **Methods**: The development and piloting processes were guided by the ADAPT-ITT model and informed by a national PEPFAR/USAID-funded HIV implementation science project called *Sauti.* The adapted STEP intervention included the following two components: 1) peer-based HIVST promotion; and 2) nurse-led HIVST distribution. For the feasibility assessment, 25 men were selected and trained as peer educators in 2019 to promote HIVST among their peers before recruiting 253 men who received instructions and an HIVST kit from a nurse at a community-based study tent site. **Results**: Of the 236 participants who completed the 1-month follow-up survey, 98.3% reported using the kit. The majority (92.4%) of participants reported a negative HIVST

result while 4.2% ($n = 10$) received a positive result. Most (70%, $n = 7$) of the participants with a positive result sought follow-up services at a healthcare facility while 40.3% ($n = 95$) of the participants with a negative self-test result visited the community-based project site. Most of the men (53%, $n = 129$) did not visit a healthcare facility or the study site. **Conclusion**: The findings demonstrate that the combined peer-based promotion and nurse-led distribution of HIVST intervention was acceptable and feasible, though seeking follow-up services at healthcare facilities remained low. Future research should evaluate the effectiveness of offering nurse-led community-based clinical follow-up services in addition to HIVST rather than referral to facilities. **Keyword:** HIV Men HIV self-testing Tanzania

32. **Costa, E., Ware, R.E., Tshilolo, L., *et al*… (2024). Globalization in clinical drug development for sickle cell disease. *Am J Hematol*. Vol.100(1).**

    Doi: 10.1002/ajh.27525.

    ABSTRACT

    Background: Globalization of clinical trials, defined operationally as conduct in the international arena, has grown over the past few decades. The pharmaceutical industry is expanding its activities not only in High-Income countries but also in Low- and Middle-Income countries (LMICs). 1 For pharmaceutical companies, this shift can be associated with several benefits: a larger pool of potential participants, faster enrolment in trials, and substantial cost savings. 1 At the same time, there may be advantages also for LMICs in terms of capacity building, gaining experience, and access to innovation. Drug development and access to medicines in LMICs is certainly a challenge for patients with sickle cell disease (SCD), a condition that is most highly prevalent in malaria-endemic countries in the global South, but that, through the tragedy of the transatlantic slave trade and subsequent migrations, is also prominent in the global

North. The prevalence of SCD outside Africa has accelerated the development of new medicinal products, enhanced by a conducive regulatory framework. The orphan drug legislation in the United States (US) and the European Union (EU) have provided pharmaceutical developers with special incentives (e.g., periods of market exclusivity) to counterbalance the limited market size. In addition, the US Food and Drug Administration (FDA) and the European Medicines Agency (EMA) have implemented special pathways to expedite the review and approval of treatments for serious and life-threatening diseases. Accordingly, in both the US and the EU, treatments for SCD can be approved based on surrogate endpoints or more flexible evidence. To assess the trends and impact of globalization on the development of SCD drugs, we analysed data from industry-sponsored studies initiated in the time interval from 1 January 1990 through 30 June 2024 (see Appendix S1). In the study period, a total of 79 pharmaceutical active substances were tested in 156 clinical trials. Overall, 56.4% of enrolling centers were in North America, 20.5% in Europe, 7.9% in Africa, 5.7% in Latin America, 9.1% in Asia and Middle East, and 0.4% in Australia. Temporal trends from the early 2000s to the last 5 years showed a relative decrease of enrolling centers in North America from 63.1% to 44.0%, and in Europe from 28.5% to 22.2%. By contrast, in African centers there was an increase from 0.5% to 13.2%, in Latin America from 1.1% to 9.0%, and in Asia and the Middle East from 5.7% to 11.4%. The number of Australian centers remained low over time. Similar trends were mirrored in the drug development phases: for instance, enrolling centers in Africa increased from 2.8% in Phase 1 trials to 4.2% in Phase 2, and to 10.6% in Phase 3 and 11.9% in Phase 4 trials. Similar increases were observed in Latin America, Asia, and the Middle East (Appendix S2). When these trends are considered according to World Bank country classifications by income, we observe an expansion toward LMICs, where participating centers increased from 7.4% of all centers in Phase 1, to 15.1% in Phase 2, to 22.1% in Phase 3, to 41.3% in phase 4. Against this background, we have detailed data from pivotal clinical trials conducted by pharmaceutical companies

seeking regulatory approval for medicines for the treatment of SCD. As of December 2023, 10 trials have led to the licensing of 9 medicinal products for SCD in the US and the EU. These products range from small molecules such as hydroxyurea, L-glutamine, voxelate, and deferiprone, to biologicals (crizanlizumab), and most recently to two potentially curative gene therapies (Table 1).

33. **Cremona, G., Paione, S., Roccia, F., *at el*… (2024). Policy of fourteen maxillofacial divisions towards titanium plate's removal after internal fixation of pediatrics maxillofacial fractures: A World Oral Maxillofacial Trauma (WORMAT) project. *Journal of Stomatology, Oral and Maxillofacial Surgery*. Vol. 125(5).**

Doi: 10.18632/oncotarget.9641.

ABSTRACT

Background: Portal hypertension is a common diagnosis in Sub-Saharan African countries, with the majority of patients presenting late. This study aimed to understand Clinical characteristics, etiology, the treatment offered in our setting, and factors associated with portal hypertension at a tertiary-level hospital, in Tanzania. **Methodology:** A prospective cross-sectional observational single hospital-based study was conducted at MNH, from May 2021 to April 2022. A minimum of 152 subjects were required with an error of less than 5% and a study power of 80% at a 95% confidence interval. A structured questionnaire was used to collect data. Ethical clearance was obtained from the MUHAS/MNH IRB.**Results:** A total of 154 eligible participants consented and participated in this study. The mean age of participants was 42 ± 15.8 years (range 2–87). Most of the study participants were males 64.9% with a male-to-female (M: F) ratio of 1.8:1. Vomiting blood was the common symptom among the study participants 51.3%. Schistosomiasis 53.9% and viral infection 26.6% were the common etiologies followed by alcohol abuse 7.8%. Most were medically

treated at 89.61% followed by radiological treatment at 8.44% while only 1.95% of patients received surgical treatment. There was a significant association between the grade of esophageal varices and bleeding consequences (p-value < 0.01). **Conclusion:** The majority of patients were medically treated while patients who require surgical care are unable to assess it. We recommend the establishment of a transplant services program to counteract the unmet need and more retrospective research toward policy establishment.

34. **Crowther, M., Dyer, R.A., Bishop, D.G., *et al*… (2024). Cross-Sectional Survey to Assess Hospital System Readiness for Hemorrhage During and After Cesarean Delivery in Africa. Anesthesia & Analgesia.**

ABSTRACT

Background: Mothers in Africa are 50 times more likely to die after cesarean delivery (CD) than in high-income countries, largely due to hemorrhage. It is unclear whether countries across Africa are adequately equipped to prevent and treat postpartum hemorrhage (PPH) during and after CD. **Methods:** This was a cross-sectional survey of anesthesiologists and obstetricians across the African Perioperative Research Group (APORG). The primary objective was to determine readiness of the hospital system to implement the World Health Organization (WHO) recommendations for prevention and treatment of PPH during and after CD. The secondary objectives were to evaluate the availability of blood products, skilled human resources and establish available postoperative care after CD. Survey question format was close-ended or Likert scale, with options “always, ”sometimes,” or “never.” **Results:** Responses were analyzed from 1 respondent from each of 140 hospitals from 29 low-and middle-income countries across Africa. Most respondents completed every data field on the case report form. Regarding WHO recommendations on prevention of PPH, oxytocin and misoprostol were available in 130/139 (93.5%) and 101/138 (73.2%) hospitals,

respectively. There was limited access to heat-stable carbetocin (12/138 [8.7%]) and ergometrine (35/135,[25.9%]). Controlled cord traction for removal of placenta was always performed in 133/135 (98.5%) hospitals. Delayed cord clamping when neonatal resuscitation was not indicated, was not performed universally (86/134 [64.2%]). Regarding the treatment of PPH, crystalloids were always available in 133/139 (95.7%) hospitals, and the preferred initial resuscitation fluid (125/138 [90.6%]). Uterine massage was always performed in 117/139 (84.2%) hospitals. Tranexamic acid was always available in 97/139 (69.8%) hospitals. The availability of intrauterine balloon tamponade devices was limited. Most had immediate access to theater (126/139 [90.6%]). Responses concerning organizational recommendations showed that 113/136 (83.1%) hospitals had written protocols for the treatment of PPH. Protocols for patient referral and simulation training were limited. Most hospitals had access to emergency blood (102/139 [73.4%]). There was limited access to blood component therapy, with platelets available at 32/138 (23.2%), cryoprecipitate at 21/138 (15.2%) and fibrinogen at 11/139 (7.9%) hospitals. In-person specialist cover was reduced after-hours. **Conclusions:** Important WHO-recommended measures to reduce hemorrhage during and after CD, are not currently available in many hospitals across Africa. It is likely that the lack of a combination of factors leads to failure to rescue mothers in Africa from postoperative complications. These findings should facilitate code sign of quality improvement initiatives to reduce hemorrhage related to CD.

35. **Daniel, E.L, Machibya, F.M, Mlangwa, M.M. (2024). Intra-maxillary Tooth Width Ratios and Mesiodistal Crown Dimensions of the Permanent Dentition in a Tanzanian Population.** ***Iranian Journal of Orthodontics*****. Vol. 19(2).**

ABSTRACT

Aim: The present study aimed to establish the mesiodistal crown dimension and intra-maxillary tooth width ratios of permanent teeth in a Tanzanian population. **Methods:** A cross-sectional study was conducted at Muhimbili University Dental Clinic involving 204 orthodontic study models with normal intra-arch occlusion. The mesiodistal width of all the permanent teeth, excluding the second and third molars, was measured using a digital Vernier caliper. Data were analyzed using SPSS 25.0. Tooth width means comparison between sexes and sides was performed using an independent t-test with the significance level set at $P<0.05$. Intra-arch tooth width ratios, correlation of variance, and mesiodistal tooth width means were calculated and presented in descriptive statistic tables. **Results:** The widest tooth was the first lower molar (11.55 mm), followed by the upper first molar (10.53 mm) and upper central incisor (9.22 mm). The smallest teeth were the central incisors in the lower jaw (5.67 mm) and the second premolar in the upper jaw (7.12 mm). Males had statistically wider teeth than females in all teeth except the second premolars and upper lateral incisor ($P<0.05$). The proportions of the upper laterals to upper central incisors were 80.5% and 81.3% in males and females, respectively. Furthermore, the ratio of the upper first premolar to that of the upper canine was 96.3% in females and 93.6% in males. **Conclusion:** Odontometrics data for the Tanzanian population was determined. The derived measurements were relatively higher compared to those reported in most other populations.

Keywords: Permanent Dentition Odontometrics Tooth Width Ratios

36. Datoo, M.S., Dicko, A., Tinto, H., *et al*… (2024). Safety and efficacy of malaria vaccine candidate R21/Matrix-M in African children: a multicentre, double-blind, randomised, phase 3 trial. *The Lancet*. Vol.403 (10426).

ABSTRACT

Background: Recently, we found that a new malaria vaccine, R21/Matrix-M, had over 75% efficacy against clinical malaria with seasonal administration in a phase 2b trial in Burkina Faso. Here, we report on safety and efficacy of the vaccine in a phase 3 trial enrolling over 4800 children across four countries followed for up to 18 months at seasonal sites and 12 months at standard sites. Methods: We did a double-blind, randomised, phase 3 trial of the R21/Matrix-M malaria vaccine across five sites in four African countries with differing malaria transmission intensities and seasonality. Children (aged 5–36 months) were enrolled and randomly assigned (2:1) to receive 5 μg R21 plus 50 μg Matrix-M or a control vaccine (licensed rabies vaccine [Abhayrab]). Participants, their families, investigators, laboratory teams, and the local study team were masked to treatment. Vaccines were administered as three doses, 4 weeks apart, with a booster administered 12 months after the third dose. Half of the children were recruited at two sites with seasonal malaria transmission and the remainder at standard sites with perennial malaria transmission using age-based immunisation. The primary objective was protective efficacy of R21/Matrix-M from 14 days after third vaccination to 12 months after completion of the primary series at seasonal and standard sites separately as co-primary endpoints. Vaccine efficacy against multiple malaria episodes and severe malaria, as well as safety and immunogenicity, were also assessed. This trial is registered on ClinicalTrials.gov, NCT04704830, and is ongoing. **Findings:** From April 26, 2021, to Jan 12, 2022, 5477 children consented to be screened, of whom 1705 were randomly assigned to control vaccine and 3434 to R21/Matrix-M; 4878 participants received the first dose of vaccine. 3103 participants in the R21/Matrix-M group and 1541 participants in the control group were included in the modified per-protocol analysis (2412 [51•9%] male and 2232 [48•1%] female). R21/Matrix-M vaccine was well tolerated, with injection site pain (301 [18•6%] of 1615 participants) and fever (754 [46•7%] of 1615 participants) as the most frequent adverse events. Number of adverse events of special interest and serious adverse events did not significantly differ between the vaccine

groups. There were no treatment-related deaths. 12-month vaccine efficacy was 75% (95% CI 71–79; p<0•0001) at the seasonal sites and 68% (61–74; p<0•0001) at the standard sites for time to first clinical malaria episode. Similarly, vaccine efficacy against multiple clinical malaria episodes was 75% (71–78; p<0•0001) at the seasonal sites and 67% (59–73; p<0•0001) at standard sites. A modest reduction in vaccine efficacy was observed over the first 12 months of follow-up, of similar size at seasonal and standard sites. A rate reduction of 868 (95% CI 762–974) cases per 1000 children-years at seasonal sites and 296 (231–362) at standard sites occurred over 12 months. Vaccine-induced antibodies against the conserved central Asn-Ala-Asn-Pro (NANP) repeat sequence of circumsporozoite protein correlated with vaccine efficacy. Higher NANP-specific antibody titres were observed in the 5–17 month age group compared with 18–36 month age group, and the younger age group had the highest 12-month vaccine efficacy on time to first clinical malaria episode at seasonal (79% [95% CI 73–84]; p<0•001) and standard (75% [65–83]; p<0•001) sites. Interpretation: R21/Matrix-M was well tolerated and offered high efficacy against clinical malaria in African children. This low-cost, high-efficacy vaccine is already licensed by several African countries, and recently received a WHO policy recommendation and prequalification, offering large-scale supply to help reduce the great burden of malaria in sub-Saharan Africa. Funding: The Serum Institute of India, the Wellcome Trust, the UK National Institute for Health Research Oxford Biomedical Research Centre, and Open Philanthropy.

37. **Deoglas, D.K., Laizer, P.J., Owibingire, S.S. (2024). Massive oral neurofibroma treated under local anesthesia: case report.** ***International Dental Journal*****. Vol.74(1).**

    Doi: 10.1016/j.identj.2024.07.777

    ABSTRACT

INTRODUCTION: Neurofibroma is the common benign neoplasm of peripheral nerves which present as solitary or as part of a syndrome. Skin is most affected and oral cavity being rarely involved. Central involvement in jaws is unusual because bones do not contain medullary nerves or nerve sheath. A case of massive solitary neurofibroma is hereby presented. **Case description:** A 62-year-old female patient presented with a swelling protruding outside the mouth for 2 years. A CT scan was performed revealing a 12 x 10 x 8 cm lesion on the right maxillary alveolus. An impression of peripheral giant cell granuloma was provisionally made. Due to financial constraints, team discussion concluded on performing total excision under local anesthesia with mild sedation after obtaining consent. The swelling was removed with the involved teeth, area curated, and soft tissue repair was performed. Histological investigation revealed a neurofibroma. No recurrence after one year follow up. **Discussion:** Head and neck region observe roughly 25% of neurofibromas and only 6% of neurofibromas occur in the oral cavity. They present similar to other benign oral lesion, thorough evaluation is mandatory to rule it out from other common conditions. Due to its slow growth and painless nature, it is associated with delay in seeking healthcare. Treatment under local anesthesia can be done due to its pedunculated presentation. Complete removal is mandatory as recurrencies have been reported. **Conclusion/clinical significance:** Neurofibroma should be considered as differential diagnosis for oral benign swellings. In resource limited environment management of oral lesions can be done under local anesthesia after thorough evaluation.

38. **Dol, J, Mselle, L.T, Campbell-Yeo, M., (2024). Essential Coaching for Every Mother Tanzania (ECEM-TZ): Protocol for a Type 1 Hybrid Effectiveness-Implementation Randomized Controlled Trial.** ***JMIR Res Protoc.*** **Vol.13.**

    Doi: 10.2196/63454.

    ABSTRACT

Background: Despite global goals to improve maternal, newborn, and child health outcomes, mortality and morbidity continue to be a concern, particularly during the postnatal period in low- and middle-income countries. While mothers have the responsibility of providing ongoing care for newborns at home, they often receive insufficient newborn care education in Tanzania. Mobile health via text messaging is an ever-growing approach that may address this gap and provide timely education. **Objective:** We aim to evaluate a text message intervention called Essential Coaching for Every Mother Tanzania (ECEM-TZ) to improve maternal access to essential newborn care education during the immediate 6-week postnatal period. **Methods:** ECEM-TZ consists of standardized text messages from birth to 6 weeks post partum that provide evidence-based information on caring for their newborn and recognizing danger signs. Messages were developed and then reviewed by Tanzanian mothers and nurse midwives before implementation. A hybrid type 1 randomized controlled trial will compare ECEM-TZ to standard care among mothers (n=124) recruited from 2 hospitals in Dar es Salaam. The effectiveness outcomes include newborn care knowledge, maternal self-efficacy, breastfeeding self-efficacy, and maternal mental health, attendance at the 6-week postnatal checkup, and newborn morbidity and mortality. The implementation outcomes include the reach and quality of implementation of the ECEM-TZ intervention. **Results:** Recruitment for this study occurred between June 13, 2024, and July 22, 2024. A total of 143 participants were recruited, 71 in the control and 72 in the intervention. The 6-week follow-up data collection began on July 30, 2024, and was completed on September 21, 2024. **Conclusions:** This study will generate evidence about the effectiveness of implementing text messaging during the early postnatal period and the feasibility of doing so in 2 hospitals in Dar es Salaam. The intervention has been designed in collaboration with mothers and nurse midwives in Tanzania. **Keywords:** mobile health (1932); maternal health (78); randomized controlled trial (773); parenting self-efficacy (1); self-efficacy (134); maternal (60); RCT (217); mother (26); text message (75);

coaching (61); postnatal (18); newborn (39); child (272); low-income country (5); middle-income country (3); Africa (80); newborn care education (1); nurse midwife (1); Tanzania (25).

39. **Dominic, P.M, Iseselo, M.K, Athanas, R. (2024). Facilitators and barriers to decision-making for hospital treatment among patients diagnosed with breast cancer in Dar es Salaam, Tanzania: A qualitative urban-based study. *PLOS Global Public Health.* Vol.4(11).**

ABSTRACT

Background: Breast cancer is a major public health problem in both developed and developing countries and has become the second leading cause of death among women worldwide. The mortality may be related to delayed or inappropriate treatment decision-making among the diagnosed patients. Decision-making is an important determinant for successful treatment for patients diagnosed with breast cancer. In Tanzania, there is a lack of information in the context of facilitators and barriers to treatment decision-making after a breast cancer diagnosis. This study aimed to explore facilitators and barriers to treatment decision-making among cancer patients in Tanzania. **Material and methods:** A descriptive qualitative design was employed to explore the facilitators and barriers to treatment decision-making at Ocean Road Cancer Institute in Dar es Salaam. A purposive sampling technique was used to recruit fourteen female patients diagnosed with breast cancer. Data were collected through in-depth, semi-structured interviews, which were audiorecorded. A thematic approach was used to analyze the data. **Findings:** Two major themes emerged from the study findings, namely; facilitators to treatment decision-making such as patient understanding of treatment information, and healthcare providers' support. Barriers to treatment decision-making include the cost of treatment, uncertainty about cancer treatment, and religious healing. **Conclusion:** This study found that practising

decision-making for hospital treatment remains a challenge for patients diagnosed with breast cancer. Patients' understanding of treatment information and healthcare providers' support are the main tools that can facilitate decision-making.

40. **Doyaa, I.F., Yahayab, J.J., Ngaizac, A.I., *et al*… (2024). Low medication adherence and its associated factors among patients with type 2 diabetes mellitus attending Amana Hospital in Dar es Salaam, Tanzania: a cross-sectional study. *International Health.* Vol. 16(2).**

Doi:10.1093/inthealth/ihad042.

ABSTRACT

Background: Low medication adherence among patients with type 2 diabetes mellitus (T2DM) is associated with significant morbidity and mortality globally. We investigated the prevalence of low medication adherence and its associated factors among patients with T2DM. **Methods:** We used the Bengali version of the 8-item Morisky Medication Adherence Scale (MMAS-8) in measuring medication adherence among patients with T2DM who were attending the diabetes clinic at Amana Regional Referral Hospital in Dar es Salaam, Tanzania, from December 2021 to May 2022. Binary logistic regression analysis under multivariate analysis was used to determine the predictors of low medication adherence after controlling for confounders. A two-tailed p-value <0.05 was considered significant. **Results:** The prevalence of low medication adherence was 36.7% (91/248) of the subjects included in the study. Lack of formal education (adjusted odds ratio [AOR] 5.3 [95% confidence interval {CI} 1.717 to 16.312], p=0.004), having comorbidities (AOR 2.1 [95% CI 1.134 to 3.949], p=0.019) and drinking alcohol (AOR 3.5 [95% CI 1.603 to 7.650], p=0.031) were the independent predictors of low medication adherence. **Conclusion:** More than one-third of the patients with T2DM in this study had low medication adherence. Our study also

showed that a lack of formal education, having comorbidities, and drinking alcohol were significantly associated with low medication adherence.

Keywords: Low medication adherence, risk factors, type 2 diabetes mellitus

41. **Drake, J.H., Kiwango, G., Kitapondya, D., *et al*… (2024). Descriptive analysis of road traffic crashes encountered by Tanzanian motorcycle taxi drivers trained in first aid. *African Journal of Emergency Medicine.* Vol.14(4).**

Doi: 10.1016/j.afjem.

ABSTRACT

Introduction: In Dar es Salaam, Tanzania, death from road traffic crashes (RTC) occurs at roughly double the global rate. In this study, we sought to understand the locations and types of vehicles involved in RTC in Dar es Salaam encountered by a cohort of motorcycle taxi drivers previously trained in first aid. **Methods:** This was a quasi-non-randomized interventional study, cohort subtype, with three-month follow-up. Some 186 motorcycle taxi drivers were selected by convenience sampling from 16 heavily populated, central wards and trained in a basic hemorrhage control course. Participants reported the location and types of vehicles involved in RTCs they encountered and intervened upon through performing bleeding control interventions. Surveys were designed on Kobo Toolbox and administered via phone call at monthly intervals over a three-month period. The main outcome measures were the location of crash encounters and types of vehicles involved. **Results:** In all 62 unique participants (33.3 %) encountered and provided bleeding control interventions to 83 injured individuals following 69 RTC in at least 31 distinct city wards, despite training only having occurred in 16 wards. Eight crash locations were not recorded. Crashes in distant wards typically contained major roads. Most commonly, crashes involved a motorcycle without the involvement of another vehicle (n=20), followed by

motorcycle vs. car/three-wheeled vehicle (n=15), motorcycle vs. bus/van (n=10), motorcycle vs. motorcycle (n=9), motorcycle vs. pedestrian (n=7), pedestrian vs. bus/van (n=2), pedestrian vs. car/three-wheeled vehicle (n=1), motorcycle vs. bicycle (n=1), multi vehicle (n=1), and other (n=3). **Conclusions**: Motorcycle taxi drivers trained in hemorrhage control frequently encounter and intervene upon RTC in wards where they are based as well as in distant locations, commonly in wards containing major roads. Expanding first aid training for motorcycle taxi drivers could improve timely access to emergency care for RTC victims. Since most crashes involved motorcycles, road safety training should be integrated into future**.**

Keywords: PrehospitalLaypersonFirst aid Motorcycle taxi Emergency careTraumaRoad traffic crash

42. Drake, J.H., Kiwango, G., Mashili, F., *et al*… (2024). Effectiveness of a Bleeding Control Course for Public Transit Drivers in Dar es Salaam, Tanzania. *Journal of Surgical Research*. Vol.301.

Doi: 10.1016/j.jss.

ABSTRACT

Introduction: In Dar es Salaam, mortality from road traffic injuries is roughly double the global rate. Most civilians are transported to hospitals by laypeople. We examined the impact of a bleeding control course among taxi drivers. **Methods**: Before-after study; participants were trained in hemorrhage control and equipped with a first aid kit. Primary outcomes were perceived bleeding control knowledge, perceived ability to apply bleeding control skills, and intention to intervene. Surveys were administered before, after, and 3 mo after training. Data were measured on a 1-5 Likert scale**.** **Results:** Among 186 participants, knowledge increased from 1.70 (95% confidence interval [CI] 1.55-1.85) before training to 4.67 (95% CI 4.55-4.78) after training and

was sustained at 3 mo 4.69 (95% CI 4.61-4.77). Ability to apply skills increased from 2.12 (95% CI 1.96-2.27) before training to 4.68 (95% CI 4.59-4.78) after training and was sustained at 3 mo 4.67 (95% CI 4.57-4.76). Intention to intervene increased from 2.69 (95% CI 2.47-2.92) before training to 4.66 (95% CI 4.55-4.76) after training and was sustained at 3 mo 4.57 (95% CI 4.48-4.67). 83 interventions occurred. Transport to health-care facilities occurred 58 times. Care was transferred to a doctor or nurse 39 times. **Conclusions:** This course increased participant's perceived bleeding control knowledge, ability to apply skills, and intention to intervene. Participants' utilized skills in the field transported the injured, and handed off care. This course should be evaluated globally in similar contexts.

43. **Endres-Dighe, S.M, Mlunde, L.B, Oga, E., (2024). Psychometric performance of tools to measure internalized drug use stigma among people who use drugs and people on medication-assisted treatment in Dar es Salaam, Tanzania.** ***Drug Alcohol Depend.*** **Vol.264.**

    Doi: 10.1016/j.drugalcdep.2024.112469.

    ABSTRACT

    Background: People who use drugs (PWUD) and people who use medication-assisted treatment (MAT) to treat opioid use disorder face severe stigma. Stigma may manifest in delayed health-seeking behaviors, which adversely affects health and increases disease risk. Few validated measures assess internalized drug use stigma or MAT disclosure concerns in sub-Saharan Africa. This study examines the performance of internalized drug use stigma scales and characterizes the prevalence of these stigmas among PWUD and people who use MAT in Dar es Salaam, Tanzania. **Methods:** We conducted a cross-sectional survey among 250 PWUD and 251 MAT clinic clients. Internalized drug use and MAT disclosure concerns were measured using scales

adapted to the Tanzanian context. We conducted exploratory factor analysis to identify latent constructs and evaluate reliability of the scales. We then used confirmatory factor analysis to assess construct validity and reliability. **Results:** The six-item internalized drug use stigma scale (IDUSS) was unidimensional, reflected acceptable goodness-of-fit, and acceptable reliability (Cronbach's α = 0.79). The eight-item internalized drug use stigma scale for people using MAT (IDUSS-MAT) was bidimensional. Allowing error terms of related items to covary improved goodness-of-fit. The IDUSS-MAT demonstrated acceptable reliability (Cronbach's α = 0.79). Among PWUD and MAT clinic clients, higher levels of stigma were associated with increased depression and reduced social support and quality of life. **Conclusions:** Both the IDUSS and IDUSS-MAT demonstrated good construct validity and acceptable reliability. These validated scales provide the foundation for collecting data to inform the development of stigma reduction interventions in Tanzania and among similar Sub-Saharan populations of PWUD and the tools needed to assess those interventions.

44. **Ernest, B, Yanda, P.Z, Hansson, A., (2024). Long-term effects of adding biochar to soils on organic matter content, persistent carbon storage, and moisture content in Karagwe, Tanzania.** ***Scientific Reports.*** **Vol.14(1).**

ABSTRACT

Soils requires the application of biochar to improve degradation. The objective of this study was to evaluate the long-term effects of a field experiment on soil organic matter (SOM), soil organic carbon (SOC), and soil moisture content in Karagwe, Tanzania. Seven years ago, a field experiment was conducted using a Latin rectangle design with four replications. The treatments included carbonization and sanitation (CaSa) and carbonization and standard compost (CaSt), which were compared to control Andosols (CoA). A total of 96 soil samples were collected to determine SOM, SOC, and soil moisture content. The data were analyzed using one-way analysis of variance. The

results showed that soil samples from the CaSa-treated soil had an increase in SOM content of 17.3%, an increase in stored SOC content of 10.0%, and an increase in soil moisture content of 6.3%. Compared with those in CoA, the CaSt-treated soil showed increases in SOM, SOC, and soil moisture of 14.4%, 8.4%, and 4.0%, respectively. Therefore, all treatments improved soil properties, with CaSa proving more effective in enhancing SOM, SOC, and soil moisture content compared to CaSt and CoA. In conclusion, CaSa is recommended for its sustainable ability to enhance Karagwean soil over time.

45. **Fimbo, A., Mwalwisi, Y., Matiko, D., *et al*… (2024). Lessons from enriching Tanzania's clinical research ethics clinical trials oversight and pharmacovigilance through the *ASCEND project. Discover Public Health*. Vol.21 (54).**

    Doi: 10.1186/s12982-024-00180-3

    ABSTRACT

    Engaging in clinical trials in Africa not only enhances researchers' comprehension of local health concerns but also plays a crucial role in tackling global health challenges. In Tanzania, there has been a surge of clinical research for the past 10 years indicating a need to improve ethical and clinical trial regulatory capacity. Several initiatives to address the clinical trial regulatory and ethics challenges have been done. Lessons from such initiatives are important to inform evidence-based decision-making for sustainability. The ASCEND project with the theme of "Moving Tanzania's Clinical Research Ethics and Medicines Regulatory Capacity to the Next Level: Fostering Medicine Quality, Safety and Good Clinical Practice (GCP) on Clinical Trials" was implemented in Tanzania Mainland and Zanzibar from November 2020 to December 2023. A thorough review of the project implementation reports and on deliverables was conducted to identify the lessons learned. Inductive content analysis was used to

analyze the information. A total of seven lessons were deduced from the reviewed documents. These include capacity building through training on clinical trials review and approval process, research ethics and GCP inspection which cannot be overlooked; engaging the community in reporting adverse drug events is worth considering; digitalization of electronic systems enhances clinical trial control and creates a dynamic regulatory ecosystem; compliance to requirements for clinical trials conduct is enhanced by training of early and mid-career researchers; networking and broad stakeholders' engagement and participation in ethics and regulations governing clinical trials is a cornerstone for strengthening collaboration between researchers and regulators; the need for electronic systems for monitoring and evaluation of the project is inevitable and the need for adhering to project timelines is crucial for successful implementation of the project. Sustainability is the take-home message from the ASCEND project and should inform stakeholders for future improvement. Continuous investment and advancement in research ethics and regulatory oversight across Africa should be prioritized.

46. **Fimbo, A., Mwalwisi, Y.H., Mwamwitwa, K., *et al*… (2024). Incidence and determinants of adverse events in individuals with HIV commencing Dolutegravir-based antiretroviral therapy in mainland Tanzania. *Scientific Reports*. Vol.14(1).**

    Doi:10.1038/s41598023511447.

    ABSTRACT

    Tanzania adopted a Dolutegravir (DTG)-based regimen as first-line treatment in 2019 following the World Health Organization recommendation. Data on the DTG safety profile from sub-Saharan Africa including Tanzania are limited. We investigated the incidence of DTG-related adverse events (AEs) and associated factors among people

living with HIV (PLHIV) initiated on a DTG regimen. A prospective cohort study was conducted from 25 Care and Treatment Clinics in mainland Tanzania. PLHIV aged 12 years and above who were initiated on a DTG-based regimen were actively followed up for three months. The Cox regression model was used to determine the predictors of occurrence of AEs over time. A p-value of 0.05 was considered statistically significant. From January 2020 to June 2022, a cohort of 935 participants who were both newly diagnosed and ART-experienced who transitioned to a DTG-based regimen was enrolled. Out of 935 participants, 59 (6.3%) reported a total of 62 AEs. The most frequently experienced AE was skin itching and rashes (15/62; 24.2%). DTG-associated neuropsychiatric AEs were less common and included headache (6 [9.6%]) and sleep disturbances (3 [4.8%]). The overall incidence of occurrence of the first AEs was 96.7 per 1000 person-months [95% C.I: 74.4–125.7] with the highest incidence observed among the elderly (≥ 60 years). Individuals on WHO HIV Clinical Stage 2 had a 2.7 significantly higher risk of developing AEs (adjusted hazard ratio = 2.73, 95% CI = 1.46–5.12, p = 0.017). We report a low incidence of grade I (mild) and grade II (moderate) DTG-associated AEs suggesting that the regimen is generally safe in the population. Continued monitoring of DTG safety in the population is recommended.

47. Fundikira, L.S., Chillo, P., Alimohamed, M.Z., *et al*… (2024). Characterization of Non-Ischemic Dilated Cardiomyopathy in a Native Tanzanian Cohort: MOYO Study. Global Heart. Vol.19 (1).

Doi: 10.5334/gh.1298

ABSTRACT

Background: Non-ischemic dilated cardiomyopathy (NIDCM) is a common cause of heart failure with progressive tendency. The disease occurs in one in every 2,500 individuals in the developed world, with high morbidity and mortality. However,

detailed data on the role of NIDCM in heart failure in Tanzania is lacking. **Aim:** To characterize NIDCM in a Tanzanian cohort with respect to demographics, clinical profile, imaging findings and management. **Methods:** Characterization of non-ischemic dilated cardioMyOpathY in a native Tanzanian cohort (MOYO) is a prospective cohort study of NIDCM patients seen at the Jakaya Kikwete Cardiac Institute. Patients aged ≥18 years with a clinical diagnosis of heart failure, an ejection fraction of ≤45% on echocardiography and no evidence of ischemia were enrolled. Clinical data, echocardiography, electrocardiography (ECG), coronary angiography and stress ECG information were collected from February 2020 to March 2022. **Results:** Of 402 patients, n = 220 (54.7%) were males with a median (IQR) age of 55.0 (41.0, 66.0) years. Causes of NIDCM were presumably hypertensive n = 218 (54.2%), idiopathic n = 116 (28.9%), PPCM n = 45 (11.2%), alcoholic n = 10 (2.5%) and other causes n = 13 (3.2%). The most common presenting symptoms were dyspnea n = 342 (85.1%), with the majority of patients presenting with New York Heart Association (NYHA) Class III n = 195 (48.5%). The mean (SD) left ventricular ejection fraction (LVEF) was 29.4% (±7.7), and severe systolic dysfunction (LVEF <30%) was common n = 208 (51.7%). Compared with other forms of DCM, idiopathic DCM patients were significantly younger, had more advanced NYHA class ($p < 0.001$) and presented more often with left bundle branch block on ECG ($p = 0.0042$). There was suboptimal use of novel guidelines recommended medications ARNI n = 10 (2.5%) and SGLT2 2-inhibitors n = 2 (0.5%). **Conclusions:** In our Tanzanian cohort, the majority of patients with NIDCM have an identified underlying cause, and they present at late stages of the disease. Patients with idiopathic DCM are younger with more severe disease compared to other forms of NIDCM.

Keywords: non-ischemic dilated cardiomyopathy, heart failure, echocardiography.

48. **Fuss, C.G., Msami, K., Kahesa, C., *et al*… (2024). The impact of in-house pathology services on downstaging cervical cancer in Tanzania over an 18-year period. *Cancer Causes Control*. Vol.35(1).**

Doi: 10.1007/s10552-023-01768-x.

ABSTRACT

Purpose: Reducing time between cancer screening, diagnosis, and initiation of treatment is best achieved when services are available in the same hospital. Yet, comprehensive cancer centers are typically unavailable in low- and middle-income countries (LMICs), where resources are limited and services scattered. This study explored the impact of establishing an in-house pathology laboratory at the largest public cancer hospital in Tanzania on the downstaging of cervical cancer. **Methods:** We examined clinical datasets of 8,322 cervical cancer patients treated at the Ocean Road Cancer Institute (ORCI). The first period included patients treated from 2002 to 2016, before establishment of the pathology laboratory at ORCI; the second period (post-pathology establishment) included data from 2017 to 2020. Logistic regression analysis evaluated the impact of the pathology laboratory on stage of cervical cancer diagnosis. **Results:** Patients treated during the post-pathology period were more likely to be clinically diagnosed at earlier disease stages compared to patients in the pre-pathology period (pre-pathology population diagnosed at early disease stage: 44.08%; post-pathology population diagnosed at early disease stage: 59.38%, $p < 0.001$). After adjustment for age, region of residence, and place of biopsy, regression results showed patients diagnosed during the post-pathology period had higher odds of early stage cervical cancer diagnosis than patients in the pre-pathology period (OR 1.35, 95% CI (1.16, 1.57), $p < 0.001$). **Conclusions:** Integrated and comprehensive cancer centers can overcome challenges in delivering expedited cervical cancer diagnosis and

treatment. In-house pathology laboratories play an important role in facilitating timely diagnosis and rapid treatment of cervical and possibly other cancers in LMICs.

49. **Goto, R, Mlambo, L, Segovia, De La Revilla L, (2024). Estimating food consumption, micronutrient intake and the contribution of large-scale food fortification to micronutrient adequacy in Tanzania.** ***Public Health Nutr.*** **Vol.27(1).**

    Doi:10.1017/S136898002400199X

    ABSTRACT

    Objective: To assess the potential contribution of large-scale food fortification (LSFF) towards meeting dietary micronutrient requirements in Tanzania. **Design:** We used household food consumption data from the National Panel Survey 2014–15 to estimate fortifiable food vehicle coverage and consumption (standardised using the adult female equivalent approach) and the prevalence at risk of inadequate apparent intake of five micronutrients included in Tanzania's fortification legislation. We modelled four LSFF scenarios: no fortification, status quo (i.e. compliance with current fortification contents) and full fortification with and without maize flour fortification. **Setting:** Tanzania. **Participants:** A nationally representative sample of 3290 Tanzanian households. **Results:** The coverage of edible oils and maize and wheat flours (including products of wheat flour and oil such as bread and cakes) was high, with 91 percent, 88 percent and 53 percent of households consuming these commodities, respectively. We estimated that vitamin A-fortified oil could reduce the prevalence of inadequate apparent intake of vitamin A (retinol activity equivalent) from 92 percent without LSFF to 80 percent with LSFF at current fortification levels. Low industry LSFF compliance of flour fortification limits the contribution of other micronutrients, but a hypothetical full fortification scenario shows that LSFF of cereal flours could

substantially reduce the prevalence at risk of inadequate intakes of iron, zinc, folate and vitamin B12. **Conclusions:** The current Tanzania LSFF programme likely contributes to reducing vitamin A inadequacy. Policies that support increased compliance could improve the supply of multiple nutrients, but the prominence of small-scale maize mills restricts this theoretical benefit.**Keywords:** Household consumption and expenditure survey, Large-scale food fortification, Micronutrient adequacy, Tanzania.

50. **Heri, R., Malqvist, M., Yahya-Malima, K.I., *et al*… (2024). Dietary diversity and associated factors among women attending antenatal clinics in the coast region of Tanzania. *BMC nutrition*. 10(1).**

Doi: 10.1186/s40795-024-00825-1.

ABSTRACT

Background: Antenatal care (ANC) is crucial for reducing maternal morbidity and mortality, especially in low-resource settings. During antenatal care, women are provided with resources for enhancing their dietary diversity, like nutrition education and counseling. Improved nutrition knowledge influences positive nutritional behavior change, like women's improved dietary diversity, which may increase the likelihood of a healthier pregnancy and delivery experience. Objective: This study aim was to assess dietary diversity and associated factors among pregnant women attending antenatal care in the Coast region of Tanzania. **Methods:** The descriptive cross-sectional study design was used to assess dietary diversity and associated factors among 338 pregnant women. A semi-structured questionnaire collected information from pregnant women on social demographic characteristics, nutrition knowledge and dietary diversity. Women were classified as having a varied diet if they had consumed at least five of the ten food groups over the previous twenty-four hours. Multivariable logistic regression

analyses were used to identify predictors of dietary diversity in pregnant women. **Results:** Only 28% (95% CI: 23.5–33.1) (n = 95) of pregnant women met the minimum dietary diversity, and 18% (95% CI: 13.8–21.9) (n = 59) were considered to have a high level of nutrition knowledge. Living near a health facility (AOR = 1.77, CI 1.02, 3.06), having high nutrition knowledge (AOR = 2.58, 95% CI: 1.36, 4.89), and being pregnant for the first time (AOR = 2.44, 95% CI: 1.09, 5.44) were associated with adequate dietary diversity. **Conclusion:** Pregnant women in the study were found to have low knowledge about nutrition and inadequate dietary diversity intake. The findings underscore the need to improve nutrition knowledge provision in antenatal clinics by emphasizing the importance of a diversified and high-quality diet. Healthcare providers in antenatal care clinics should consistently provide nutrition education and counseling to pregnant women and promote their diversified food consumption. Such knowledge may eventually promote healthier pregnancy and child development by curbing the nutritional deficiencies experienced during pregnancy.

51. **Holl, F., Kircher, J., Hertelendy, A.J., *et al*… (2024). Tanzania's and Germany's digital health strategies and their consistency with the World Health organization's global strategy on digital health 2020-2025: Comparative policy analysis. *J Med Internet Res.* Vol.26.**

    Doi: 10.2196/52150.

    ABSTRACT

    Background: In recent years, the fast-paced adoption of digital health (DH) technologies has transformed health care delivery. However, this rapid evolution has also led to challenges such as uncoordinated development and information silos, impeding effective health care integration. Recognizing these challenges, nations have developed digital health strategies (DHSs), aligning with their national health priorities

and guidance from global frameworks. The World Health Organization (WHO)'s Global Strategy on Digital Health 2020-2025 (GSDH) guides national DHSs. **Objective:** This study analyzes the DHSs of Tanzania and Germany as case studies and assesses their alignment with the GSDH and identifies strengths, shortcomings, and areas for improvement. **Methods:** A comparative policy analysis was conducted, focusing on the DHSs of Tanzania and Germany as case studies, selected for their contrasting health care systems and cooperative history. The analysis involved a three-step process: (1) assessing consistency with the GSDH, (2) comparing similarities and differences, and (3) evaluating the incorporation of emergent technologies. Primary data sources included national eHealth policy documents and related legislation. **Results:** Both Germany's and Tanzania's DHSs align significantly with the WHO's GSDH, incorporating most of its 35 elements, but each missing 5 distinct elements. Specifically, Tanzania's DHS lacks in areas such as knowledge management and capacity building for leaders, while Germany's strategy falls short in engaging health care service providers and beneficiaries in development phases and promoting health equity. Both countries, however, excel in other aspects like collaboration, knowledge transfer, and advancing national DHSs, reflecting their commitment to enhancing DH infrastructures. The high ratings of both countries on the Global Digital Health Monitor underscore their substantial progress in DH, although challenges persist in adopting the rapidly advancing technologies and in the need for more inclusive and comprehensive strategies. **Conclusions:** This study reveals that both Tanzania and Germany have made significant strides in aligning their DHSs with the WHO's GSDH. However, the rapid evolution of technologies like artificial intelligence and machine learning presents challenges in keeping strategies up-to-date. This study recommends the development of more comprehensive, inclusive strategies and regular revisions to align with emerging technologies and needs. The research underscores the importance of context-specific adaptations in DHSs and highlights the need for broader, strategic guidelines to direct the future development of the DH ecosystem. The WHO's GSDH

serves as a crucial blueprint for national DHSs. This comparative analysis demonstrates the value and challenges of aligning national strategies with global guidelines. Both Tanzania and Germany offer valuable insights into developing and implementing effective DHSs, highlighting the importance of continuous adaptation and context-specific considerations. Future policy assessments require in-depth knowledge of the country's health care needs and structure, supplemented by stakeholder input for a comprehensive evaluation.

52. **Ibrahim, M., Chibwae, A., Magoda, B., *et al*… (2024). A road to surgical success: A case report of huge retroperitoneal idiopathic non-pancreatic cyst in a 6-year-old child at tertiary hospital, Muhimbili National Hospital: *Journal of Surgical Case Reports*. Vol. 2024(8).**

Doi: 10.1093/jscr/rjae552.

ABSTRACT

In most reported cases, pancreatic pseudocysts are the most commonly reported cases and mostly occur in adults. Idiopathic non-pancreatic pseudocyst is rarely reported among children. We are reporting a rare case of retroperitoneal pseudocyst in a 6-year-old male with a 4-week history of abdominal swelling. He had asymmetrical abdominal distention on the right lumber and iliac regions with a smooth surface measuring 12 × 22 cm in its largest dimension. CT scan showed a mesenteric cyst, ipsilateral hydronephrosis, and intrahepatic duct dilatations. Intraoperatively, a retroperitoneal cystic mass was completely excised histologically confirmed pseudocyst. The patient was discharged home after fully recovery after 4 days of surgery. Surgical interventions remain to be the stay management of retroperitoneal pseudocysts with an earlier full recovery. Open surgical technique remains to be a

preferred approach, especially for the large and complex retroperitoneal cysts. **Keywords:** pediatric, retroperitoneal pseudocyst.

53. **Iddy, H, Nasser, A, Hussein, A. (2024). Utility of glass slide morphology (GSM) and whole slide image (WSI) in the diagnosis of acute leukemia (AL) by types.Vol.18.**

Doi:10.3332/ecancer.2024.1790

ABSTRACT

Acute leukemia (AL) is a diverse group of hematological malignancies characterised by the accumulation of immature blast cells in the bone marrow. Accurate classification into acute myeloid leukemia (AML) or acute lymphoblastic leukemia (ALL) is essential for treatment and prognosis. This study aimed to assess the performance of glass slide morphology (GSM) using a light microscope versus whole slide imaging (WSI) in diagnosing and classifying AL, using flow cytometry as the gold standard test. Peripheral smears and bone marrow aspirates from 97 patients suspected of AL were stained with Romanowsky stain and reviewed by a single hematologist. For GSM, the hematologist was provided with a single slide, which was to be evaluated under a light microscope. For WSI, the Alexapath mobile scanner (ADA1) was used to scan the slides for review by the hematologist. Patient identification was concealed from the interpreting hematologist, and an interval of 2 weeks was set between the review of GSM and WSI of the same patient. The sensitivity and specificity of GSM and WSI were compared to the results of flow cytometry. Out of the 97 patients suspected to have AL, 47 were confirmed to have AL by flow cytometry. Among these, 19 (40.4%) were diagnosed with AML and 28 (59.6%) with ALL. GSM demonstrated high sensitivity (89.4%) and specificity (90.0%) for diagnosing AL, but lower sensitivity in distinguishing AML (57.9%) from

ALL (75.0%). Similarly, WSI exhibited a reasonable sensitivity (80.9%) and high specificity (98.0%) for diagnosing AL, but lower sensitivity in differentiating AML (57.9%) and ALL (46.4%). GSM and WSI are reasonable and acceptable techniques for accurately screening AL cases and accelerating referral to tertiary centers of excellence. **Keywords:** acute leukemia, glass slide morphology, whole slide image, flow cytometry, sensitivity, specificity, Tanzania

54. Itule, P.W., Mwanga, A., Khamisi, R.H., *et al*… (2024). Clinical characteristics and management of patient with portal hypertension at tertial level hospital in Tanzania. *BMC Cardiovascular Disorders.* Vol. 24(1).

ABSTRACT

Background: Portal hypertension is a common diagnosis in Sub-Saharan African countries, with the majority of patients presenting late. This study aimed to understand Clinical characteristics, aetiology, the treatment offered in our setting, and factors associated with portal hypertension at a tertiary-level hospital, in Tanzania. **Methodology:** A prospective cross-sectional observational single hospital-based study was conducted at MNH, from May 2021 to April 2022. A minimum of 152 subjects were required with an error of less than 5% and a study power of 80% at a 95% confidence interval. A structured questionnaire was used to collect data. Ethical clearance was obtained from the MUHAS/MNH IRB. **Results:** A total of 154 eligible participants consented and participated in this study. The mean age of participants was 42 ± 15.8 years (range 2–87). Most of the study participants were males 64.9% with a male-to-female (M: F) ratio of 1.8:1. Vomiting blood was the common symptom among the study participants 51.3%. Schistosomiasis 53.9% and viral infection 26.6% were the common etiologies followed by alcohol abuse 7.8%. Most were medically treated at 89.61% followed by radiological treatment at 8.44% while only 1.95% of patients received surgical treatment. There was a significant association between the

grade of oesophagal varices and bleeding consequences (p-value < 0.01). **Conclusion:** The majority of patients were medically treated while patients who require surgical care are unable to assess it. We recommend the establishment of a transplant services program to counteract the unmet need and more retrospective research toward policy establishment.

55. **Janson, S., Nyenga, L., Saleem, H., *et al*… (2024). Conserve DF. Residential and inpatient treatment of substance use disorders in Sub-Saharan Africa: a scoping review. *Substance Abuse Treatment, Prevention, and Policy.* Vol.19(1).**

    Doi:10.1186/s13011023005890.

    ABSTRACT

    Background: With substance use rates increasing in Sub-Saharan Africa (SSA), an understanding of the accessibility and effectiveness of rehabilitative services for people who use alcohol and other drugs (AOD) is critical in the global efforts to diagnose and treat substance use disorders (SUD). This scoping review seeks to address the gaps in knowledge related to the types of research that have been conducted regarding inpatient or residential SUD treatment in SSA, the settings in which the research was conducted, and the study countries. **Methods:** A search of three databases, PubMed, Scopus, and African Index Medicus, was conducted for publications related to the treatment of SUD in inpatient or residential settings in SSA. Two reviewers screened articles at the title/abstract level and full text. Articles eligible for inclusion were original research, conducted in SSA, published in English, included populations who received or were currently receiving treatment for SUD in inpatient or residential settings, or documented demand for SUD services. **Results:** This scoping review included 82 studies originating from 6 countries in SSA. Three themes emerged within the literature: access and demand for inpatient and residential SUD treatment, quality

and outcomes of SUD treatment, and descriptions of the services offered and staffing of these facilities. Barriers to access include financial barriers, limited availability of services, and geographic concentration in cities. Women were shown to access residential and inpatient SUD treatment at lower rates than men, and certain racial groups face unique language and financial barriers in accessing services. Studies indicate mixed success of inpatient and residential SUD treatment in sus- tained SUD remission for patients. **Conclusion:** There are significant gaps in the literature, driven by a lack of longitudinal studies focused on patient outcomes following treatment and the use of a narrow definition of treatment success. Both structural and nonstructural barriers, such as stigma and discrimination, are barriers to access. Further research is needed to evaluate approaches to mitigate these barriers and expand access to residential and inpatient SUD treatment.

Keywords: Substance use disorders, Sub-Saharan Africa, Addiction, Drug and alcohol treatment, Drug, and alcohol rehabilitation

56. **Joseph, J., Niemczak, C., Lichtenstein, J., *et al*… (2024). Central auditory test performance predicts future neurocognitive function in children living with and without HIV. *Scientific Reports* Vol. 14(2712).**

Doi: 10.1038/s41598-024-52380-1.

ABSTRACT

Background: Tests of the brain's ability to process complex sounds (central auditory tests) correlate with overall measures of neurocognitive performance. In low- to low-middle-income countries where resources to conduct detailed cognitive testing is limited, tests that assess the central auditory system may provide a novel and useful way to track neurocognitive performance. This could be particularly useful for children living with HIV (CLWH). To evaluate this, we administered central auditory tests to

CLWH and children living without HIV and examined whether central auditory tests given early in a child's life could predict later neurocognitive performance. We used a machine learning technique to incorporate factors known to affect performance on neurocognitive tests, such as education. The results show that central auditory tests are useful predictors of neurocognitive performance and perform as well or in some cases better than factors such as education. Central auditory tests may offer an objective way to track neurocognitive performance in CLWH.

57. **Juliano, J.J, Giesbrecht, D.J, Simkin, A., (2024). Prevalence of mutations associated with artemisinin partial resistance and sulfadoxine–pyrimethamine resistance in 13 regions in Tanzania in 2021: a cross-sectional survey.** ***The Lancet Microbe.*** **Vol.5(10).**

ABSTRACT

Background: The emergence of the artemisinin partial resistance (ART-R) mutation in the Plasmodium falciparum kelch13 gene (k13), Arg561His, in Rwanda and the regional presence of polymorphisms affecting sulfadoxine–pyrimethamine have raised concern in neighbouring Tanzania. The goal of this study was to assess the status of antimalarial resistance in Tanzania, with a focus on the border with Rwanda, to understand the distribution of the Arg561His mutation, partner drug resistance, and resistance to chemoprevention drugs. **Methods:** In this cross-sectional survey, capillary dried blood spots were collected from malaria positive asymptomatic individuals in the community and symptomatic individuals in health facilities aged 6 months and older, in 13 regions of mainland Tanzania from Jan 31 to June 26, 2021. Exclusion criteria included residence of the areas other than the target sites, presenting to the health facility for care and treatment of conditions other than malaria, and not providing informed consent. Samples were assessed for antimalarial resistance polymorphisms and genetic relatedness using molecular inversion probes targeting P

falciparum and short-read whole-genome sequencing. The primary outcome was the prevalence of molecular markers of antimalarial resistance at the region level, as well as at the district level in Kagera, a region in the northwest of the country at the border with Rwanda. **Findings:** 6855 (88·1%) of 7782 capillary dried blood spot samples collected were successfully genotyped. The overall prevalence of k13 Arg561His in Kagera was 7·7% (90% CI 6·0–9·4; 50 of 649), with the highest prevalence in the districts near the Rwandan border (22·8% [31 of 136] in Karagwe, 14·4% [17 of 118]) in Kyerwa, and 1·4% [two of 144] in Ngara). k13 Arg561His was uncommon in the other regions. Haplotype analysis suggested that some of these parasites are related to isolates collected in Rwanda in 2015, supporting regional spread of Arg561His. However, a novel k13 Arg561His haplotype was observed, potentially indicating a second origin in the region. Other validated k13 resistance polymorphisms (one Arg622Ile and two Ala675Val isolates) were also identified. A region of prevalent dihydrofolate reductase Ile164Leu mutation, associated with sulfadoxine–pyrimethamine resistance, was also identified in Kagera (15·2% [12·6–17·8%]; 80 of 526). The mutant crt Lys76Thr mutation, associated with chloroquine and amodiaquine resistance, was uncommon, occurring only in 75 of 2861 genotyped isolates, whereases the wild-type mdr1 Asn86Tyr allele, associated with reduced sensitivity to lumefantrine, was found in 99·7% (3819 of 3830) of samples countrywide. **Interpretation:** These findings show that the k13 Arg561His mutation is common in northwest Tanzania and that multiple emergences of ART-R, similar as to what was seen in Southeast Asia, have occurred. Mutations associated with high levels of sulfadoxine–pyrimethamine resistance are common. These results raise concerns about the long-term efficacy of artemisinin and chemoprevention antimalarials in the region. Understanding how multiple emergences interact with drivers of regional spread is essential for combating ART-R in Africa. **Funding:** This study was funded by the Bill & Melinda Gates Foundation and the National Institutes of Health.

58. **Kajembula, I.M, Matheo, K.I, Simchimba, P.D. (2024). Understanding the factors influencing nurses in managing patients with diabetic ketoacidosis in the emergency departments of referral hospitals in Dar es Salaam, Tanzania: A descriptive qualitative study. *Plos one*. Vol.19(11).**

Doi: 10.1371/journal.pone.0310414.

ABSTRACT

Background: The quality of nursing management of diabetic ketoacidosis (DKA) in emergency departments may be associated with either increased or decreased length of hospital stay. Despite that patient with DKA need intensive care unit (ICU) admission, effective initial nursing management of DKA patients at the emergency department is important. Regarding factors influencing the effective management when caring for patients with DKA, it is unknown how Tanzanian nurses perceive these issues. Therefore, this study was aimed to explore nurses' perceived factors influencing nursing management of DKA patients at emergency medical department (EMD) of two selected referral hospitals in Dar es Salaam, Tanzania. **Methodology:** A descriptive qualitative study design was conducted to explore nurses' perspectives on the factors influencing nursing management of DKA patients. A total of twelve purposively selected nurses participated in in-depth interviews. The interview guide written in Kiswahili was used to collect data. All interviews were audio recorded and transcribed verbatim, and transcripts analyzed using qualitative content analysis. **Findings:** Two main themes emerged from the study including facilitators of DKA nursing management and barriers to DKA nursing management. Facilitators of DKA management encompassed three categories including nurses' knowledge of DKA, the availability of DKA management protocol, and nurses' skillset to enhance DKA management. On the other hand, barriers to DKA management had eight sub-categories including limited training on DKA management, lack of autonomy,

decisions disagreement, delayed electrolyte results, scarcity of medical resources, shortage of nursing staffs, logistics in emergency care, and lack of specific-nursing management guideline. **Conclusion:** This study highlights facilitators and barriers to DKA management and underscores the need for comprehensive strategies to overcome these barriers and consolidate the facilitators to improve nurses' capacity in managing patients with DKA.

59. **Kakiziba, M. Kakumbi, T. Rugemalila, I., *et al*… *(*2024). Trends in Indications, Intraoperative Findings and Outcome of Relaparotomy after Caesarean Section at a Tertiary Hospital in Eastern Zone Tanzania; Five Years' Review: *EAS J Med Surg,* Vol.6(7): 224-229.**

Doi: 10.36349/easjms. 2024. V06i07.003.

ABSTRACT

Background: The increased incidences of caesarean section rate is associated with a number of post-operative complications; one being relaparotomy which is considered a maternal near-miss. The purpose of a relaparotomy isto manage complications of the previous surgery such as unsecured hemostasis, manage intraabdominal infection, repairing of iatrogenic damaged organs like bowels, ureters and bladder, relieve intestinal obstruction and maintain intestinal continuity or to carry out delayed curative surgery. In general, second surgery increases not only the morbidity but also the risk of maternal mortality. Methods: The study was cross sectional, conducted at the Department of Obstetrics and Gynecology in MNH. It involved review of medical records of all women who necessitated re-laparotomy following Caesarean Section (CS) that was performed either at MNH or from referring health facilities during the study period. **Results:** There were 193 relaparotomy cases, 98% were referrals. Atonic uterus and sepsis (septic uterus, pelvic abscess and pus in peritoneal cavity) as

intraoperative finding showed statistical significance in our study. Atonic uterus for those women who underwent relaparotomy due to post-partum hemorrhage (PPH) increase from 1(7.7%) in 2017 to 6(14%) in 2021 with an average increase of 2.31 % every year. Number of cases for sepsis (combination of septic uterus, pelvic abscess and pus in peritoneal cavity) was significant decreasing every year from 22(37.3%) in2018 to 7(16.3%) 2021with and average decrease of 3.15% every year from 2017 to 2021. The number of cases who had hysterectomy as one of the post-operative outcomes was statistically significant decreasing from 44(74.6%) to 26(60.5%) over the study period with an average decrease of 5.89% every year from 2018 to 2021. **Conclusion:** The most frequent indication for relaparotomy after CS was a burst abdomen. For the women who had relaparotomy due to uncontrollable PPH, the main intraoperative finding was atonic uterus and their numbers were significantly increasing with time. Sepsis during relaparotomy was decreasing significantly with time. For the maternaloutcome, hysterectomy showed significant decrease in number with time.

Keywords: Relaparotomy, caesarean section, indication, intraoperative findings, outcome.

60. **Kallimbu, M., Mwangu, M., Mujinja, P., *et al*… (2024). The influence of the perception, attitude, and level of trust on the uptake of COVID-19 vaccinations among pregnant women attending antenatal care clinic in Mbeya urban, Tanzania. *BMC Public Health*. Vol.24(1).**

Doi: 10.1186/s12889-024-19643-y.

ABSTRACT

Background: Coronavirus Disease 2019 (COVID–19) has been associated with adverse effects and death among people with low immunity, including pregnant women. Despite introducing the vaccine as the proper means to curb the spread of the pandemic, vaccine uptake is still low. This study assessed the influence of perception, attitude, and trust toward COVID-19 vaccine uptake among pregnant women attending Antenatal Care Clinics. **Methods:** A cross-sectional study design was used, utilizing a quantitative approach with a cross-sectional analytical design conducted in Mbeya urban, distribution of sample size during data collection based on client's volume at three government health facilities (one tertiary health facility, one secondary health facility, and one primary health facility) in Mbeya Urban, Tanzania. Data were collected from 333 pregnant women who attended ANC during the data collection period using a questionnaire with closed-ended questions administered to respondents face-to-face. Data cleaning and analysis were done using Excel and Stata/SE 14.1 software for bivariate and multivariate data; Pearson's chi-squire and Fisher's test were used to analyze the independent determinants of COVID-19 vaccine uptake. **Results:** The proportion of pregnant women vaccinated with the COVID-19 vaccine was 27%. There was a statistically significant association between the respondents' vaccine uptake with primary education and < 5 work experience to vaccine uptake P = 0.015 (AOR = 6.58; 95% CI; 1.45–29.85), and P = 0.046 (AOR = 2.45; 95% CI; 1.02–5.89) respectively. The association of attitude influence to COVID-19 vaccine uptake was statistically significant (acceptance of vaccine due to its availability, vaccine acceptance for protection against COVID-19 pandemic to respondent and her baby, experience from other vaccines) was statistically significant at P = 0.011 (AOR = 4.43; 95% CI; 1.41–13.93), P = 0.001 (AOR = 45.83; 95% CI; 18.6-112.89) respectively. The level of trust in the COVID-19 vaccine influenced respondents' association with vaccine uptake in the 2nd and 3rd trimesters of pregnancy (P = 0.633 (AOR = 1.23; 95% CI; 0.53–2.48), respectively. **Conclusion:** Pregnant women's positive attitude and trust in the COVID-19 vaccine influenced them to uptake it; our conclusion supports

the WHO guidelines that the COVID-19 vaccine should be administered to pregnant women since it is a safer means to curb COVID-19 pregnancy-related complications.

61. Kamori, D., Barabona, G., Maokola, W., *et al*… (2024). HIV viral suppression in the era of dolutegravir use: Findings from a national survey in Tanzania. *PLoS One*. Vol.19 (8).

Doi: 10.1371/journal.pone.0307003.

ABSTRACT

Background: Tanzania has made significant progress in improving access to HIV care and treatment. However, virologic suppression among people living with HIV (PLHIV) has not been fully realized. In March 2019, Tanzania introduced a World Health Organization (WHO)—recommended dolutegravir-based regimen as the default first-line regimen. Eighteen months later we investigated the HIV viral suppression rates and the factors associated with lack of viral suppression among PLHIV (children and adults) in Tanzania. **Methodology:** A cross-sectional survey was conducted from September to December 2020 among PLHIV on antiretroviral therapy (ART) in Tanzania. Whole blood samples, demographic data and clinical information were obtained from eligible adults (≥15 years) and children (< 15 years) attending thirty-six HIV care and treatment centres located in 22 regions of Tanzania mainland. A whole blood sample from each participant was processed into plasma and HIV viral load was estimated using real-time PCR. HIV viral suppression was defined at a cut-off of < 50 copies/mL as recommended by WHOM. Analyses were conducted using descriptive statistics to establish the national representative prevalence of viral suppression, and logistic regression analyses to determine independent factors associated with non-suppression. **Results:** A total of 2,039 PLHIV on ART were recruited; of these, adults and children were 57.5% (n = 1173) and 42.5% (n = 866), respectively. Among the

adult population, the mean age and standard deviation (SD) was 42.1 ± 12.4 years, with 64.7% being female. Among children, the mean age and SD were 9.6 ± 3 years, and 53.2% were female. Overall viral suppression at < 50 copies/mL (undetectable) was achieved in 87.8% of adults and 74.4% of children. Adults and children on dolutegravir-based regimen recorded viral suppression rates of 89.7% and 85.1% respectively. Factors independently associated with lack of viral suppression status in the adult population were age and ART adherence while in the children population, the factors were sex, ART adherence, and current ART regimen ($p<0.05$). **Conclusion:** Dolutegravir-based regimens are promising to help attain epidemic control in Tanzania. More efforts especially on ART adherence are needed to attain optimal treatment outcomes for children and adults PLHIV in Tanzania.

62. **Kamori, D., Renatus, D., Mwandigha, A., *et al*… (2024). Prevalence and patterns of multidrug-resistant bacteria isolated from sputum samples of patients with bacterial pneumonia at a tertiary hospital in Tanzania. *Bulletin of the National Research Centre*. Vol.48 (1).**

    Doi: 10.1186/s42269-024-01228-9.

    ABSTRACT

    Background: Antimicrobial resistance affects the treatment of several bacterial infections, including pneumonia. This subsequently increased the morbidity and mortality rates of patients with bacterial pneumonia, especially in resource-limited settings. In this study, we aimed to determine the patterns of multidrug-resistant (MDR) bacteria isolated from the sputum samples of patients with bacterial pneumonia attending a tertiary hospital in Tanzania. **Methodology:** A retrospective cross-sectional study was conducted. It involved reviewing the laboratory sputum data in the laboratory information system at Muhimbili National Hospital in Tanzania. The

sputum samples were previously processed using standard methods (culture, Gram staining, and biochemical tests) to isolate and identify the bacteria. At the same time, antibiogram profile were determined using antimicrobial susceptibility tests. Bacterial isolates that expressed MDR patterns were identified. Demographic information was collected from patients' medical records. We used the chi-square test to determine factors associated with MDR. A p-value < 0.05 was considered significant. **Results:** We retrieved and analysed 169 laboratory records of patients with a provisional clinical diagnosis of bacterial pneumonia confirmed in the microbiology laboratory. Nearly 98% of the records were from adult patients. The patients' mean age was 48.3 years and 17.3 standard deviations. About 84% of the isolated bacteria were Gram-negative; the most predominant was Klebsiella pneumoniae (59/142; 41.5%). The predominant Gram-positive bacteria were Staphylococcus aureus (25/27; 92.6%). Furthermore, 80 out of 169 (47.3%) bacteria were MDR; Klebsiella pneumoniae (32.5%) was predominant. In addition, 50% of Staphylococcus aureus was methicillin resistance. MDR bacterial pneumonia was highly observed in patients admitted to the Intensive Care Unit ($p < 0.05$). Conclusions: Although our study was limited by variations in the number of bacterial isolates subjected to the same antibiotic drugs and a lack of information on risk factors such as occupation, smoking history, and marital status, we observed that a high proportion of bacterial pneumonia is caused by MDR Gram-negative bacteria in our local setting. These results inform the need to improve infection prevention control measures in hospitals to reduce the burden of MDR bacteria in our settings and other similar resource-limited settings. **Keywords:** Multidrug resistance. Pneumonia, Gram-negative bacteria.

63. **Karoli, P. M., Shayo, E.H., Shayo, G.A., *et al*… (2024). Patients and care providers' perspectives on the barriers and facilitators of HIV viral load testing in Tanzania: A qualitative study in Dar es Salaam.** ***Journal of the International Association of Providers of AIDS Care (JIAPAC).*** **Vol. 23.**

Doi: 10.1177/23259582241273385.

ABSTRACT

Background: The study explores barriers and suggestions for improving viral load testing (VLT) uptake in Tanzania, revealing that only 58% of patients receive VLT annually, contrary to the Tanzanian National Guidelines toward the 95-95-95 UNAIDS targets. Twelve individual interviews and three patient-focus groups were conducted as part of a qualitative study conducted in six human immunodeficiency virus (HIV) clinics in Dar es Salaam to identify potential suggestions for access enhancement, as well as barriers to VLT uptake. Using King's theory of goal attainment, we found that missing appointments was the primary individual barrier to VLT uptake, along with limited knowledge among individuals living with HIV. Participants also face system–level barriers, such as a lack of integrated care and evening service availability. The study suggests that, despite challenges, there is potential for improvement in the uptake and quality of VLT services in Tanzanian public health facilities through a holistic approach. **Keywords:** HIV, viral load, barriers, quality improvement, qualitative study, Tanzania.

64. **Karthikeyan, G., Ntsekhe, M., Islam, S., *et al*… (2024). Mortality and Morbidity in Adults with Rheumatic Heart Disease. J*AMA* Vol.332(2).**

Doi: 10.1001/jama.2024.8258.

ABSTRACT

Importance: Rheumatic heart disease (RHD) remains a public health issue in low- and middle-income countries (LMICs). However, there are few large studies enrolling individuals from multiple endemic countries. Objective: To assess the risk and predictors of major patient-important clinical outcomes in patients with clinical RHD.

Design: Setting, and Participants Multicentre, hospital-based, prospective observational study including 138 sites in 24 RHD-endemic LMICs. Main Outcomes and **Measures:** The primary outcome was all-cause mortality. Secondary outcomes were cause-specific mortality, heart failure (HF) hospitalization, stroke, recurrent rheumatic fever, and infective endocarditis. This study analyzed event rates by World Bank country income groups and determined the predictors of mortality using multivariable Cox models. **Results:** Between August 2016 and May 2022, a total of 13 696 patients were enrolled. The mean age was 43.2 years and 72% were women. Data on vital status were available for 12 967 participants (94.7%) at the end of follow-up. Over a median duration of 3.2 years (41 478 patient-years), 1943 patients died (15% overall; 4.7% per patient-year). Most deaths were due to vascular causes (1312 [67.5%]), mainly HF or sudden cardiac death. The number of patients undergoing valve surgery (604 [4.4%]) and HF hospitalization (2% per year) was low. Strokes were infrequent (0.6% per year) and recurrent rheumatic fever was rare. Markers of severe valve disease, such as congestive HF (HR, 1.58 [95% CI, 1.50-1.87]; $P < .001$), pulmonary hypertension (HR, 1.52 [95% CI, 1.37-1.69]; $P < .001$), and atrial fibrillation (HR, 1.30 [95% CI, 1.15-1.46]; $P < .001$) were associated with increased mortality. Treatment with surgery (HR, 0.23 [95% CI, 0.12-0.44]; $P < .001$) or valvuloplasty (HR, 0.24 [95% CI, 0.06-0.95]; $P = .042$) were associated with lower mortality. Higher country income level was associated with lower mortality after adjustment for patient-level factors. **Conclusions and Relevance:** Mortality in RHD is high and is correlated with the severity of valve disease. Valve surgery and valvuloplasty were associated with substantially lower mortality. Study findings suggest a greater need to improve access to surgical and interventional care, in addition to the current approaches focused on antibiotic prophylaxis and anticoagulation.

65. **Kassimu, K.R., Ali, A.M., Omolo, J.J., *et al*… (2024). The effect of an anti-malarial herbal remedy, Maytenus senegalensis, on electrocardiograms of healthy Tanzanian volunteers. *Malar J.* Vol. 23(103).**

Doi:10.1186/s12936-024-04935-w.

ABSTRACT

Background: The emergence of resistance to artemisinin-based combination therapy necessitates the search for new, more potent antiplasmodial compounds, including herbal remedies. The whole extract of Maytenus senegalensis has been scientifically investigated for potential biological activities both in vitro and in vivo, demonstrating strong antimalarial activity. However, there is a lack of data on the electrocardiographic effects of M. senegalensis in humans, which is a crucial aspect of the investigation of malaria treatment. Assessing the electrocardiographic effects of M. senegalensis is essential, as many anti-malarial drugs can inadvertently prolong the QT interval on electrocardiograms. Therefore, the study's objective was to evaluate the electrocardiographic effects of M. senegalensis in healthy adult volunteers. **Methods:** This study is a secondary analysis of an open-label single-arm dose escalation. Twelve healthy eligible Tanzanian males, aged 18 to 45, were enrolled in four study dose groups. A single 12-lead electrocardiogram (ECG) was performed at baseline and on days 3, 7, 14, 28, and 56. **Results:** No QTcF adverse events occurred with any drug dose. Only one volunteer who received the highest dose (800 mg) of M. senegalensis experienced a moderate transient change ($\triangle$QTcF > 30 ms; specifically, the value was 37 ms) from baseline on day 28. There was no difference in maximum QTcF and maximum $\triangle$QTcF between volunteers in all four study dose groups. **Conclusions:** A four-day regimen of 800 mg every 8 h of M. senegalensis did not impact the electrocardiographic parameters in healthy volunteers. This study suggests that M. senegalensis could be a valuable addition to malaria treatment, providing a safer

alternative and potentially aiding in the battle against artemisinin-resistant malaria. The results of this study support both the traditional use and the modern therapeutic potential of M. senegalensis. They also set the stage for future research involving larger and more diverse populations to explore the safety profile of M. senegalensis in different demographic groups. This is especially important considering the potential use of M. senegalensis as a therapeutic agent and its widespread utilization as traditional medicine.

66. **Katale, B.Z., Rofael, S., Elton, L., *et al*… (2024). Clinical application of whole-genome sequencing in the management of extensively drug-resistant tuberculosis: a case report. *Annals of Clinical Microbiology and Antimicrobials*. Vol.23(1).**

    Doi: 10.2139/ssrn4769101.

    ABSTRACT

    Background: Whole-genome sequencing (WGS)-based prediction of drug resistance in Mycobacterium tuberculosis has the potential to guide clinical decisions in the design of optimal treatment regimens. **Methods:** We utilized WGS to investigate drug resistance mutations in a 32-year-old Tanzanian male admitted to Kibong'oto Infectious Diseases Hospital with a history of interrupted multidrug-resistant tuberculosis treatment for more than three years. Before admission, he received various all-oral bed aquiline-based multidrug-resistant tuberculosis treatment regimens with unfavorable outcomes. **Results:** Drug susceptibility testing of serial M. tuberculosis isolates using Mycobacterium Growth Incubator Tubes culture and WGS revealed resistance to first-line anti-TB drugs, bed aquiline, and fluoroquinolones but susceptibility to linezolid, clofazimine, and delamanid. WGS of serial cultured isolates revealed that the Beijing (Lineage 2.2.2) strain was resistant to bed aquiline, with mutations in the mmpR5 gene (Rv0678. This study also revealed the emergence of two

distinct subpopulations of bed aquiline-resistant tuberculosis strains with Asp47f and Glu49fs frame shift mutations in the mmpR5 gene, which might be the underlying cause of prolonged resistance. An individualized regimen comprising bed aquiline, delamanid, pyrazinamide, ethionamide, and para-aminosalicylic acid was designed. The patient was discharged home at month 8 and is currently in the ninth month of treatment. He reported no cough, chest pain, fever, or chest tightness but still experienced numbness in his lower limbs. **Conclusion:** We propose the incorporation of WGS in the diagnostic framework for the optimal management of patients with drug-resistant and extensively drug-resistant tuberculosis.

67. **Kibwana, U. O., Manyahi, J., Moyo, S. J., *et al*… (2024). Antimicrobial resistance profile of Enterococcus species and molecular characterization of Vancomycin resistant Enterococcus faecium from the fecal samples of newly diagnosed adult HIV patients in Dar es Salaam, Tanzania. *Frontiers in Tropical Diseases*. Vol. 5 1307379.**

Doi:10.3389/fitd.2024.1307379

ABSTRACT

Background: Enterococci are becoming clinically more important, especially among immunocompromised patients. Of concern are vancomycin-resistant enterococci (VRE) which have both intrinsic and acquired forms of resistance. This work aimed to determine the antimicrobial resistance patterns of Enterococcus spp. and characterize VRE isolate obtained from HIV-infected patients using whole genome sequencing (WGS) **Methods:** Antimicrobial susceptibility testing was done on 57 enterococci isolates by both the disk diffusion method and Epsilometer test (E-Test). WGS was performed on VRE isolate determined by E-test. **Results**: Out of the 57 enterococci isolates; 58% (33/57) were E. faecalis, 39% (22/57) E. faecium and 4% (2/57) were E.

gallinarum. The highest antimicrobial resistance was observed in E. faecalis isolates. The most prevalent antimicrobial resistance was observed towards quinupristin-dalfopristin (56%, 32/57), followed by ciprofloxacin (28%), tigecycline (18%), daptomycin (16%), chloramphenicol (14%), ampicillin and teicoplanin (2%). Multidrug resistance (MDR) was detected in 11% (6/57) of the isolates. Vancomycin resistance and high-level gentamycin resistance (HLGR) were observed in one E. faecium and one E. faecalis isolates respectively. The VRE was typed as ST80 and carried van A and other resistance genes for aminoglycosides, tetracyclines, quinolones, and ampicillin. Furthermore, the isolate had chromosomal mutations responsible for quinolone (gyrA (p.S83I) and parC (p.S80I) and ampicillin (pbp5) resistance. **Conclusions:** The detection of VRE, HLGR, and MDR in the study settings underscores the sustained surveillance of VRE in high-risk groups and the institution of infection control measures for prompt identification and isolation of carriers to prevent the spread of VRE in the community and hospital settings.

68. **Kidabulo, E., Nkinda, L., Mwakawanga, D.L., *et al*… (2024). Impacts of the COVID-19 pandemic on HIV care and treatment services among adolescents attending a tertiary hospital in Dar es Salaam, Tanzania: a qualitative study: *BMJ Public Health*. Vol.2.**

Doi:10.1136/bmjph-2024-000935.

ABSTRACT

Background: The COVID-19 pandemic has caused substantial disruption on HIV care and treatment programmes, especially for adolescents living with HIV (ALHIV) who are known to have poorer health outcomes compared with adults. Efforts made to overcome the pre-existing challenges were hampered by the emergence of the pandemic which interrupted adolescent-friendly healthcare services. Therefore, the aim

of this study was to assess the impacts of the pandemic on HIV care and treatment services from healthcare providers and adolescents' experiences at a tertiary hospital in Dar es Salaam, Tanzania. **Methods:** A descriptive qualitative study using in-depth interviews was conducted with 17 study participants. Purposive and convenient sampling techniques were used to recruit healthcare providers and adolescents, respectively. Swahili semistructured interview guide was used to conduct interviews. Thematic analysis was conducted to generate themes and subthemes describing the experiences on effects brought by COVID-19 on HIV care and treatment among adolescents. **Results:** The study revealed that alteration of approach in delivery of healthcare and limited human and nonhuman resources in healthcare facilities during the COVID-19 pandemic decreased effectiveness and quality of care which resulted in adolescent's poor adherence to medication and loss to follow-up. Loss of family income, food insecurity and limited socialisation posed threat to adolescent's mental health and overall quality of life. **Conclusion:** Our findings underscore the impacts of COVID-19 and its immediate responses that significantly affected adolescent HIV care and treatment services. Reinforcement of sustainable ALHIV programmes and funding supports to these programmes are essential to promote retention and engagement to care during pandemics.

69. **Kikula, A.I., Semaan, A., Balandya, B., *et al*… (2024). Increasing prevalence of overweight and obesity among Tanzanian women of reproductive age intending to conceive evidence from three Demographic Health Surveys, 2004-2016. *Journal of Global Health Reports*. Vol.7.**

    Doi:10.29392/001c.87443.

    ABSTRACT

Background: The prevalence of people who are overweight or obese is increasing globally, especially in low- and middle-income countries. High body mass index (BMI) among women of reproductive age is a risk factor for various adverse reproductive and pregnancy outcomes. This study aims to describe trends over time in the distribution of BMI among Tanzanian women of reproductive age intending to conceive between 2004/5 and 2015/16, and identify factors associated with high BMI. Methods: We used data on 20,819 women of reproductive age (15-49 years) intending to conceive who participated in the Tanzania Demographic and Health Surveys in 2004/5, 2010, and 2015/16. We estimated the prevalence of high BMI (being overweight [≥25 to <30 kg/m2] and obesity [≥30kg/m2) and trends in the prevalence of high BMI across the three surveys. Using survey-weighted multivariable logistic regression, we used the most recent 2015/16 survey data to identify factors associated with high BMI Results: Median BMI increased from 21.7kg/m2 (inter-quartile range, IQR=19.9-24.1 kg/m2) in 2004/5 to 22.0 kg/m2 (IQR=20.0-24.8 kg/m2) in 2010 to 22.7 kg/m2 (IQR=20.4-26.0 kg/m2) in 2015/16. The prevalence of overweight women increased from 11.1% in 2004/5 to 15.8% in 2015 (P <0.001). The prevalence of obesity increased from 3.1% in 2004/5 to 8.0% in 2015/16 (P<0.001). Women in the highest wealth quintile had higher odds (adjusted odds ratio, aOR= 4.5; 95%CI 3.4-6.3, P<0.001) of high BMI than women in the lowest quintile. The odds of high BMI were about four times greater (aOR=3.9; 95%CI=2.9-5.4, P<0.001) for women 40-44 years compared to 20–24-year-olds. Women in high-paying occupations had greater odds of high BMI than those working in agriculture (aOR=1.5; 95% CI=1.1-2.2, P=0.002). Women residing in the Southern zone had 1.9 (95%CI=1.5-2.5, P<0.001) greater odds of high BMI than Lake zone residents. Conclusions: In Tanzania, high BMI affects almost 1 in 4 women of reproductive age who intend to conceive. This contributes to the burden of poor maternal and reproductive health outcomes. We recommend developing and implementing health-system strategies for addressing high BMI, tailored to the modifiable risk factors identified among women of reproductive age.

70. **Killel, E., Mchau, G., Mbilikila, H., *et al*… (2024). Dietary intake and associated risk factors among pregnant women in Mbeya, Tanzania. *PLOS Glob Public Health*. Vol.4(1).**

Doi: 10.1371/journal.pgph.0002529

ABSTRACT

Background: Poor dietary intake among pregnant women has serious detrimental consequences for pregnancy and offspring both in developed and developing countries. This study aimed to assess dietary intake and associated risk factors among pregnant women. A cross-sectional study was conducted in Mbeya, Tanzania with a sample size of 420 pregnant women attending antenatal clinics to assess the factors associated with dietary intake. Dietary intake was assessed using a piloted questionnaire of the Prime Diet Quality Score. A tested standard questionnaire was also used to collect factors that are associated with dietary intake among pregnant women. The strengths of the associations between the dependent and independent variables were tested using the Pearson chi-square tests and the multivariate log-binomial regression method was performed to calculate the adjusted risk ratios (ARR) and 95% confidence interval (CI). The study revealed that out of 420 pregnant women who participated in this study only 12.6% and 29.3% consumed at least four servings of fruits and vegetables per week respectively. Poor dietary intakes were less likely among cohabiting pregnant women [Adjusted RR 0.22 (95% CI 0.09–0.50)] and; those who reported taking Fansidar tablets during the pregnancy [Adjusted RR 0.55 (95% CI 0.31–0.96)]. Further, we found that poor dietary intakes were more likely among pregnant women who were classified as overweight and obese by the MUAC above 33cm [Adjusted RR 3.49 (95% CI 1.10–11.06)]. The study results affirm that cohabitation and obesity affect dietary intakes among pregnant women differently compared to married women in rural settings of Tanzania. Further research is needed to investigate the social

aspects that link dietary intake outcomes for developing a tailored gestational intervention to improve maternal and birth outcomes in sub-Saharan African countries.

71. **Kilonzi, M., Mutagonda, R.F., Mwakawanga, D.L., *et al*… (2024). Establishment of Clinical Pharmacy Services: Evidence-Based Information from Stakeholders. Human Resources for Health. Vol. 22(6).**

Doi:10.1186/s12960-023-00887-5.

ABSTRACT

Background: High morbidity and mortality related to the use of drugs resulted in demand for clinical pharmacy services (CPS) globally. In developed countries, the evolution of pharmacists' role in direct patient care started in the 1960s. The participation of pharmacists in CPS has resulted in positive clinical, economic, and humanistic outcomes. In developing countries, efforts have started to ensure pharmacists are engaged in the provision of CPS. However, the efforts are hampered by poorly defined pharmacist career paths, financial constraints, and a lack of political willingness. In Tanzania, efforts started in 2008, in which CPS was introduced into the Bachelor of Pharmacy curriculum, followed by the initiation of a postgraduate program on hospital and clinical pharmacy in 2013. A regulation was released by the Tanzania Ministry of Health in 2020 to enforce pharmacists' engagement in providing CPS. In 2021, a project was launched in the country, aiming to strengthen the provision of CPS in public and faith-based hospitals by training on-the-job pharmacists. The project was implemented in phases, including stakeholders' engagement, baseline survey, training, and supportive supervision of the trained pharmacists. Therefore, this commentary aims to share what we experienced during project implementation, the achievements, challenges, and key lessons learned.

72. **Kilusungu, Z.H., Kassam, D., Kimera, Z.I., Mgaya, F. X., *et al*… (2024). Tetracycline and sulphonamide residues in farmed fish in Dar es Salaam, Tanzania, and human health risk implications. Food Additives & Contaminants: Part B. Vol.17(2):110.**

Doi:10.1080/19393210.2024.2331106

ABSTRACT

Background: In Africa, antibiotic residue investigations in animal food have primarily been focused on meat, neglecting farmed fish. This cross-sectional study conducted in Dar es Salaam, Tanzania, aimed to assess sulphonamide and tetracycline residues in farmed fish, comparing levels with Codex Alimentarius Commission's acceptable daily intake (ADI) and maximum residue limits (MRLs). A total of 84 farmed fish were sampled and analyzed in the presence of tetracycline and sulphonamide residues. All samples were positive for sulphonamide residues (100%; n = 84), and 2.4% (n = 2) were positive for tetracycline and consequently also positive for both compounds. Tetracycline levels were below ADI and MRL, 28.5% (n = 24) surpassed the ADI, and 6% (n = 5) of the samples exceeded the MRL for sulphonamide. Regular monitoring of antibiotic residues in aquaculture products is crucial to mitigate health risks and expanding assessments to include other commonly used compounds is warranted.

Keywords: Aquacultureresiduestetracyclinesulphonamides Dar es Salaam

73. **Kimambo, A.H., Vuhahula, E.A., Philipo, G.S., *et al*… (2024). Rapid Onsite Evaluation for Specimen Adequacy and Triage of Breast Masses in a Low-Resource Setting. *Archives of pathology & laboratory medicine*. Vol. 148(1).**

Doi:10.5858/arpa.2022-0398-OA.

ABSTRACT

Background: Rapid onsite evaluation (ROSE) is critical in determining sample adequacy and triaging cytology samples. Although fine-needle aspiration biopsy (FNAB) is the primary method of initial tissue sampling in Tanzania, ROSE is not practiced. Objective: To investigate the performance of ROSE in determining cellular adequacy and providing preliminary diagnoses in breast FNAB in a low-resource **setting. Design:** Patients with breast masses were recruited prospectively from the FNAB clinic at Muhimbili National Hospital. Each FNAB was evaluated by ROSE for overall specimen adequacy, cellularity, and preliminary diagnosis. The preliminary interpretation was compared to the final cytologic and histologic diagnoses, when available. **Results:** Fifty FNAB cases were evaluated, and all were adequate for diagnosis on ROSE and final interpretation. The overall percentage of agreement (OPA) between preliminary and final cytologic diagnosis was 84%, the positive percentage of agreement (PPA) was 33%, and the negative percentage of agreement (NPA) was 100% ($\kappa = 0.4$, $P < .001$). Twenty-one cases had correlating surgical resections. OPA between preliminary cytologic and histologic diagnoses was 67%, PPA was 22%, and NPA was 100% ($\kappa = 0.2$, $P = .09$). OPA between final cytologic and histologic diagnoses was 95%, PPA was 89%, and NPA was 100% ($\kappa = 0.9$, $P = <.001$). **Conclusions:** False-positive rates of ROSE diagnoses for breast FNAB are low. While preliminary cytologic diagnoses had a high false-negative rate, final cytologic diagnoses had overall high concordance with histologic diagnoses. Therefore, the role of ROSE for preliminary diagnosis should be considered carefully in low-resource settings, and it may need to be paired with additional interventions to improve pathologic diagnosis. Breast cancer (BC) is the second leading cause of cancer-related mortality among women in Tanzania, with a majority of patients (63%–84%) presenting with advanced disease.1–4 Tanzania has a hierarchical healthcare structure in which the vast majority of specialized cancer care, including pathology, is concentrated in a few referral hospitals and select zonal hospitals, leading to significant delays in cancer diagnosis and treatment.5,6 Critically, BC survival rates begin to

erode when delays to treatment are greater than 3 months.7 While core needle biopsy has increasingly replaced fine-needle aspiration biopsy (FNAB) in high-resource settings, this service is prohibitively expensive and not readily available in many resource-constrained settings

74. **Kimambo, A.H., Vuhahula, E.A., Philipo, G.S., *et al*… (2024). Rapid Onsite Evaluation for Specimen Adequacy and Triage of Breast Masses in a Low-Resource Setting. *Arch Pathol Lab Med.* Vol.148 (1).**

Doi:10.5858/arpa.2022-0398-OA.

ABSTRACT

Background: Rapid onsite evaluation (ROSE) is critical in determining sample adequacy and triaging cytology samples. Although fine-needle aspiration biopsy (FNAB) is the primary method of initial tissue sampling in Tanzania, ROSE is not practiced. **Objective:** To investigate the performance of ROSE in determining cellular adequacy and providing preliminary diagnoses in breast FNAB in a low-resource setting. Design: Patients with breast masses were recruited prospectively from the FNAB clinic at Muhimbili National Hospital. Each FNAB was evaluated by ROSE for overall specimen adequacy, cellularity, and preliminary diagnosis. The preliminary interpretation was compared to the final cytologic diagnosis and histologic diagnosis, when available. **Results:** Fifty FNAB cases were evaluated, and all were adequate for diagnosis on ROSE and final interpretation. The overall percentage of agreement (OPA) between preliminary and final cytologic diagnosis was 84%, the positive percentage of agreement (PPA) was 33%, and negative percentage of agreement (NPA) was 100% ($\kappa = 0.4$, $P < .001$). Twenty-one cases had correlating surgical resections. OPA between preliminary cytologic and histologic diagnoses was 67%, PPA was 22%, and NPA was 100% ($\kappa = 0.2$, $P = .09$). OPA between final cytologic

and histologic diagnoses was 95%, PPA was 89%, and NPA was 100% (κ = 0.9, P = <.001). **Conclusions:** False-positive rates of ROSE diagnoses for breast FNAB are low. While preliminary cytologic diagnoses had a high false-negative rate, final cytologic diagnoses had overall high concordance with histologic diagnoses. Therefore, the role of ROSE for preliminary diagnosis should be considered carefully in low-resource settings, and it may need to be paired with additional interventions to improve pathologic diagnosis.

75. Kimaro, E., Yusto, E., Mohamed, A., Silago V, *et al*… (2024). Quality equivalence and in-vitro antibiotic activity test of different brands of amoxicillin/clavulanic acid tablets in Mwanza, Tanzania: A cross-sectional study. *Heliyon.*Vol.10 (1).

Doi: 10.1016/j.heliyon.2023.e23418

ABSTRACT

Background: Each film-coated tablet of amoxicillin/ clavulanic acid contains 500 mg of amoxicillin as an active pharmaceutical ingredient and 125 mg of clavulanic acid. Different brands have the same active ingredients but different excipients, which may cause differences in efficacy. With the emergence of generic antibiotics post-patent expiration, the antibiotic activity of generics is in question in comparison to the innovator. This study aims to determine the pharmaceutical quality and in-vitro antimicrobial activity of different brands of amoxicillin/clavulanate. Method: ology: The study was a cross-sectional laboratory-based experimental study conducted at the TMDA (Tanzania Medicines and Medical Devices Authority) Lake Zone laboratory and the CUHAS Microbiology Laboratory from in May 2021. The study samples were four brands of amoxicillin/clavulanate and sixty archived isolates, thirty of which were E. coli, and the remaining thirty K. pneumoniae. Determination of minimum inhibitory concentrations, assay, and dissolution test results were used to make conclusions for

the study. **Results:** All tablet samples complied with the British pharmacopeia (BP) specifications, however sixty archived isolates which were tested in this study showed resistance towards the standard AMC disc (68 %). The innovator brand (AC1) showed a significant mean difference from 2 out of 3 generics (p-values <0.05) while the first generic brand (AC2) showed significant superiority among the generics. **Conclusion:** Thus, the four samples that were used all complied with the specifications according to BP on dissolution and assay tests but there was an overall resistance towards amoxicillin/clavulanate, and this was moreover seen by generic brands in comparison to the innovator which proved to be of superior activity.

Keywords: Quality equivalence In-vitro antibiotic activity test Amoxicillin/clavulanic tablet

76. **Kimera, Z. I., Mgaya, F. X., Mshana, S. E., *et al*… (2024). Occurrence of Extended-Spectrum Beta-Lactamase and Quinolone Resistance Genes among Escherichia coli and Klebsiella pneumoniae Isolated from Poultry, Domestic Pigs and Environ in Msimbazi River Basin in Tanzania. *Journal of Applied Sciences and Environmental Management*. Vol.28(1).**

Doi:10.4314/jasem.v28i1.5

ABSTRACT

Background: We investigated the occurrence and distribution of genes encoding for extended-spectrum beta-lactamase (ESBL) production and quinolone resistance among multi-drug resistant (MDR) Escherichia coli and Klebsiella pneumoniae isolated from poultry, domestic pigs, and environment samples in the Msimbazi basin in Tanzania. A total of 130 non-duplicated isolates obtained from the poultry (n = 40), domestic pigs (n = 52) and environment (n = 38) were screened for ESBL genes (blaCTX-M, blaTEM, and blaSHV) and plasmid-mediated quinolone resistance (PMQR) genes

(qnrA, qnrB, qnrS, qnrC, qnrD, qepA, and aac (6)-Ib-cr) using polymerase chain reaction (PCR). The most commonly detected ESBL genes were blaCTX-M (31.5%, n=41) and blaTEM (10%, n=13), while quinolone resistance genes were qnrS (27.7%, n=36), qnrB (6.9%, n=9) and aac (6)-lb-cr (5.4%, n=7). ESBL gene blaSHV and quinolone resistance genes qnrA, qnrC, and qepA were not detected in any of the isolates. Resistance genes were highest in isolates from the environmental samples (86%, n=33), followed by poultry 72.5% (n=29), and domestic pigs 21.4%, (n=9). Overall, the most frequent resistance gene was qnrS, followed by blaCTX-M and blaTEM. About 17.7% (n=23) of the E. coli and K. pneumoniae isolates depicted co-existence of ESBL and quinolone resistance genes. One Health interventional measures, involving different disciplines across human, animal, and environmental sectors, are needed to control the spread of antimicrobial resistance in the Msimbazi River Basin in Tanzania.

77. **Kisenge, R., Dhingra, U., Rees, C.A., *et al*… (2024) Risk factors for moderate acute malnutrition among children with acute diarrhea in India and Tanzania: a secondary analysis of data from a randomized trial. *BMC Pediatrics*. Vol.24 (1):56.**

Doi: 10.1186/s12887-024-04551-2.

ABSTRACT

Background: Moderate acute malnutrition (MAM) affects over 30 million children aged < 5 years worldwide. MAM may confer a greater risk of developing severe malnutrition and even mortality in children. Assessing risk factors for MAM may allow for earlier recognition of children at risk of deleterious health outcomes. **Objective:** To determine risk factors associated with the prevalence and development of MAM among children aged 6 to 59 months with acute diarrhea who received

treatment with oral rehydration solution and zinc supplementation. **Methods:** We conducted a secondary analysis of data from a randomized, dose-finding trial of zinc among children with acute diarrhea in India and Tanzania. We used regression models to assess risk factors for prevalent MAM at the start of diarrhea treatment and to identify risk factors associated with the development of MAM at 60 days. MAM was defined as weight for length (or height) Z score ≤—2 and > -3 or mid-upper arm circumference < 12.5 and ≥ 11.5 cm. **Results:** A total of 4,500 children were enrolled; 593 (13.2%) had MAM at the baseline. MAM at baseline was significantly less common among children in Tanzania than in India (adjusted risk ratio [aRR] 0.37, 95% confidence interval [CI]: 0.30, 0.44, P < 0.001), in children aged 24- < 60 months versus 6- < 12 months (aRR 0.46, 95% CI: 0.38, 0.56, P < 0.001), and in families with household wealth index higher than the median (aRR 0.79, 95% CI: 0.68, 0.92, P = 0.002). Sixty days after outpatient treatment and follow-up, 87 (2.5%) children developed MAM. When compared to children aged 6- < 12 months, children aged 24- < 60 months had a 52% lower risk of developing MAM. Every one-unit increase in weight for length (or height) Z score at enrolment was associated with a 93% lower risk of developing MAM during follow-up. **Conclusions:** Among children with diarrhea, younger children and those from households with lower wealth were at greater risk of MAM. These children may benefit from targeted interventions focusing on feeding (targeted nutrition support for at-risk households) and follow-up to reduce the occurrence of MAM and its consequences.

78. **Kisenge, R., Ideh, R.C., Kamara, J., *et al*… (2024). Morbidity and unplanned healthcare encounters after hospital discharge among young children in Dar es Salaam, Tanzania and Monrovia, Liberia. *BMJ Paediatr Open.* Vol. 8(1).**

ABSTRACT

Background: Researchers and healthcare providers have paid little attention to morbidity and unplanned healthcare encounters for children following hospital discharge in low- and middle-income countries. Our objective was to compare symptoms and unplanned healthcare encounters among children aged <5 years who survived with those who died within 60 days of hospital discharge through follow-up phone calls. **Methods:** We conducted a secondary analysis of a prospective observational cohort of children aged <5 years discharged from neonatal and pediatric wards of two national referral hospitals in Dar es Salaam, Tanzania, and Monrovia, Liberia. Caregivers of enrolled participants received phone calls 7, 14, 30, 45, and 60 days after hospital discharge to record symptoms, unplanned healthcare encounters, and vital status. We used logistic regression to determine the association between reported symptoms and unplanned healthcare encounters with 60-day post-discharge mortality. **Results:** A total of 4243 participants were enrolled and had 60-day vital status available; 138 (3.3%) died. For every additional symptom ever reported following discharge, there was a 35% greater likelihood of post-discharge mortality (adjusted odds ratio [aOR] 1.35, 95% confidence interval [CI] 1.10 to 1.66; p=0.004). The greatest survival difference was noted for children who had difficulty breathing (2.1% among those who survived vs 36.0% among those who died, p<0.001). Caregivers who took their child home from the hospital against medical advice during the initial hospitalization had over eight times greater odds of post-discharge mortality (a OR 8.06, 95% CI 3.87 to 16.3; p<0.001) and those who were readmitted to a hospital had 3.42 greater odds (95% CI 1.55 to 8.47; p=0.004) of post-discharge mortality than those who did not seek care when adjusting for site, sociodemographic factors, and clinical variables. **Conclusion:** Surveillance for symptoms and repeated admissions following hospital discharge by healthcare providers is crucial to identify children at risk for post-discharge mortality.

79. **Kitambala, E.V., Davis A., Njiro, B.J., *et al*… (2024). Burden and Factors Associated with Renal Dysfunction among People Living with HIV in Dar es Salaam, Tanzania. *Global Journal of Health Science, Canadian Center of Science and Education.* Vol.16(6).**

Doi:10.5539/gjhs.v16n6p37.

ABSTRACT

Renal diseases pose a significant burden of morbidity and mortality, particularly among People Living with HIV (PLHIV). The risks are further compounded by drug-induced renal toxicity, and the growing burden of hypertension, diabetes, and Hepatitis C infections. This study assessed the magnitude and factors associated with renal dysfunction among PLHIV attending clinics in Dar es Salaam, Tanzania. A hospital-based cross-sectional study was conducted between January and March 2022 among 331 PLHIV recruited through a multistage sampling. Renal disease was determined through urine analysis and clinical, demographic, and disease-specific data were collected using a structured questionnaire. The analysis, performed in SPSS version 25, involved descriptive analysis, univariate, and multivariable logistic regression to determine the magnitude and predictors of renal dysfunction among PLHIV. Renal dysfunction was observed in 37 (11.1%) participants. Patients with advanced age were 3.89 times more likely to have renal dysfunction (95% CI: 1.56 – 9.72, p = 0.004) compared to lower age groups. No statistically significant association was found between renal dysfunction and sex, duration from diagnosis of HIV and on ART, ART-based regimen, HIV viral load, hypertension, or diabetes mellitus. More than one in ten PLHIV in Dar es Salaam, Tanzania, presented with signs of renal dysfunctions, which was more significant among patients aged 55 and older. Routine screening for renal diseases among PLHIV, especially for patients with advanced age is essential to prevent and control for progression to renal failure.

Keywords: Renal dysfunction, proteinuria, ART, People Living with HIV, Dar es Salaam

80. **Klassen, S.L., Okello, E., Ferrer, J.M.E., *et al*… (2024). Correction: Decentralization and Integration of Advanced Cardiac Care for the World's Poorest Billion Through the PEN-Plus Strategy for Severe Chronic Non-Communicable Disease. *Glob Heart.* Vol. 19(1).**

Doi:10.5334/gh.1338.

ABSTRACT

Background: Rheumatic and congenital heart disease, cardiomyopathies, and hypertensive heart disease are major causes of suffering and death in low- and lower-middle-income countries (LLMICs), where the world's poorest billion people reside. Advanced cardiac care in these counties is still predominantly provided by specialists at urban tertiary centers and is largely inaccessible to the rural poor. This situation is due to critical shortages in diagnostics, medications, and trained healthcare workers. The Package of Essential NCD Interventions – Plus (PEN-Plus) is an integrated care model for severe chronic noncommunicable diseases (NCDs) that aims to decentralize services and increase access. PEN-Plus strategies are being initiated by a growing number of LLMICs. We describe how PEN-Plus addresses the need for advanced cardiac care and discuss how a global group of cardiac organizations is working through the PEN-Plus Cardiac expert group to promote a shared operational strategy for the management of severe cardiac disease in high-poverty settings.

Keywords: heart failure advanced cardiac disease low-income country decentralization

81. **Kusena, P., Metta, E., Mohamed, H., *et al*… (2024). "If I die for touching him, let me die": a rapid ethnographic assessment of cultural practices and Ebola**

transmission in high-risk border regions of Tanzania. ***BMC Public Health*****. Vol.24 (1).**

Doi:10.1186/s12889-024-19316-w.

ABSTRACT

Background: Ebola Virus Disease (EVD) is a rare but contagious disease caused by Ebola Virus (EBOV). The first Ebola outbreaks were reported in the Democratic Republic of Congo (DRC) before subsequent reported cases in Western and East African countries, including Uganda, which borders Tanzania. Proximity to EVD-infected countries raises the prospect of cross-border transmission, raising alarm in Tanzania. This study aimed to explore the cultural practices likely to prevent or escalate EVD transmission in the event of its outbreak in the country. **Methods:** This rapid ethnographic assessment employed observation, interviews, and focus group discussions to collect data from people with diverse characteristics in five regions of Tanzania Mainland namely, Kagera, Kigoma, Mwanza and Songwe regions and Zanzibar Island. The qualitative data was then subjected to thematic analysis. Findings: Cultural practices may escalate the transmission of EVD and hinder its prevention and control. These cultural practices include caring sick people at home, confirmation of death, mourning, and body preparation for burial. Communal life, ceremonies, and social gatherings were other aspects observed to have the potential for compounding EVD transmission and hindering its containment in case of an outbreak. **Conclusion:** Cultural practices may escalate EVD transmission as identified in the study settings. As such, Risk Communication and Community Engagement (RCCE) activities should be interventionist in transforming cultural practices that may escalate the spread of EVD as part of preparedness, prevention, and control efforts in the event of an outbreak.

Keywords: Ebola virus disease, Ebola outbreak, Transmission, Cultural practices, Risk regions Tanzania

82. **Kyando, H.A., Tesha, N., Metta, E. (2024). "Predictors of Mothers Living with HIV Uptake of HIV Early Infant Diagnosis Services in Iringa District, Tanzania."** ***Journal of the International Association of Providers of AIDS Care (JIAPAC)*****.**

ABSTRACT

Background: Uptake of HIV early infant diagnosis (HEID) among HIV-exposed infants is the key to timely initiation of Antiretroviral Treatment (ART). However, despite the availability of HEID services in Tanzania, its uptake is low. We aimed to determine predictors of mothers living with HIV' with HIV-exposed infants' uptake of HEID services in Iringa District, Tanzania. **Methods:** A health facility-based cross-sectional study was conducted in Iringa District from May to June 2023. Mothers with HIV-exposed infants were recruited in the study through a multistage sampling technique and interviewed using pre-tested structured questions. Logistic regression analysis was employed to determine potential predictors of HEID uptake. Results: A total of 309 mothers with HIV-exposed infants participated in the study. About 78.3% of the HIV-exposed infants had initial DNA PCR for HEID within 6 weeks of age and 86.1% within 8 weeks. Most mothers had high perceived benefits on uptake of HEID with a mean score of 4.3, high perceived self-efficacy with a mean score of 3.8 and 2.7 perceived risk of HIV infection on their HIV-exposed infants on the 5 scale Likert scale with 5 showing the highest perceived benefit, self-efficacy and risk. High perceived self-efficacy and being a businesswoman were the predictors of uptake of HEID. The odds of self-efficacy on the uptake of HEID by 2.4 times (aOR 2.4 95% CI 1.6–3.2) within 6 weeks of age and 1.9 (aOR 1.9 95% CI 1.3-2.7) within 8 weeks. The odds of being a businesswoman were 0.4 for 6 weeks and 0.3 for 8 weeks (aOR 0.4 95% CI 0.2-0.8) and (aOR 0.3 95% CI 0.1-0.8) respectively. **Conclusion:** Over three-

quarters of the HIV-exposed infants had initial DNA PCR for HEID testing as recommended. Perceived self-efficacy was the main factor influencing HEID uptake. These findings highlight the need for strengthening HIV-positive mother's self-efficacy for improved uptake of HEID services.

83. Kyaruzi, V.M., Mduma, E., Darko, K., *et al*… (2024) Microvascular density and vasculogenic mimicry the predictive signatures of prognosis and therapeutic response in gliomas—a systematic review and meta-analysis protocol. *Journal of Surgical Protocols and Research Methodologies*. Vol.2024 (1).

Doi: 10.1093/jsprm/snad017.

ABSTRACT

Background: Malignant gliomas are the most angiogenic aggressive tumors with high proliferative and invasion phenotypes. Total microvessel density, the combination of the microvascular density and the vasculogenic mimicry status, is a biomarker closely associated with the aggressiveness of a tumor including its invasive and metastatic potential. This review aims to investigate the relationship between vasculogenic mimicry and microvascular density, and its association with prognosis and therapeutic response in gliomas across the available randomized clinical trials (RCTs) and cross-sectional studies to optimize the strength of evidence for underpinning the strategy for treating tumors. We will conduct the Systematic and Meta-analysis by employing the provisions of Preferred Reporting Items for Systematic Review and Meta-analysis (PRISMA) 2020 guideline and the review protocol will be submitted to the International Prospective Register of Systematic Reviews (PROSPERO) for registration before the commencement of the study. We will construct the search strategy using a combination of ‘glioma’, ‘microvascular density’, ‘vasculogenic mimicry’, ‘prognostic significance’, and ‘therapeutic response’ from the four databases

(Scopus, EMBASE, PubMed, and Cochrane Library). This review will be conducted without the involvement of human participants, making ethical clearance approval inapplicable. The protocol for this review will be duly registered with the PROSPERO registry. The final report of this review will be shared at scientific conferences, both locally and internationally, and the protocol and final results will be published in a reputable Neurosurgery journal.

84. Lekey, A., Masumo, R.M., Jumbe, T., *et al*… (2024). Food taboos and preferences among adolescent girls, pregnant women, breastfeeding mothers, and children aged 6-23 months in Mainland Tanzania: A qualitative study. *PLOS Glob Public Health*. Vol.12(8).

Doi: 10.1371/journal.pgph.0003598.

ABSTRACT

Malnutrition is a serious public health problem and has long-lasting economic consequences for individuals and families and, in turn, affects the economic growth of the country. Understanding food taboos and individual preferences for food items is critical to the development of effective nutritional programs and educational messages. The present study aimed to explore food taboos and preferences in food items among breastfeeding mothers, pregnant women, adolescent girls, and their young children aged 6–23 months old. This is a qualitative cross-sectional study employing ethnography. A multistage sampling technique was used to select one region from the seven zones in mainland Tanzania. In each region, we purposively selected one rural ward and one urban ward. We conducted 25 focus group discussions with a total of 208 participants. We also conducted 42 in-depth interviews with nutrition officers, community health workers, religious leaders, influential persons, representatives of civil society organisations, and community leaders in the respective areas. We

thematically coded the data and analyzed the narrative. Food taboos and individual preferences in food items continue to be practiced in Tanzania's Mainland despite efforts to educate people on healthy diets. In some regions of Tanzania's Mainland, pregnant women and breastfeeding mothers were prohibited from eating eggs, meat, fish, or vegetables. In Arusha, adolescent girls were prohibited from eating goat meat similar to Singida where adolescent girls were prohibited from eating chicken thighs. It is believed that by feeding a young child with eggs her hair gets plucked. This study underscores that food taboos and preferences still exist in Tanzania Mainland, and implies gaps in the nutrition education. Thus, nutrition education campaigns and programs should address food taboos and preferences for the meaningful tackling of malnutrition.

85. **Lema, Y.L., Prodjinotho, U.F., Makasi, C., *et al*… (2024). Evaluating the modulation of peripheral immune profile in people living with HIV and (Neuro) cysticercosis. *PLOS Neglected Tropical Diseases.* Vol. 18(8).**

Doi: org/10.1371/journal.pntd.0012345.

ABSTRACT

Background: The parasitic infection caused by Taenia solium represents a significant public health concern in developing countries. Larval invasion of body tissues leads to cysticercosis (CC), while central nervous system (CNS) involvement results in neurocysticercosis (NCC). Both conditions exhibit diverse clinical manifestations, and the potential impact of concomitant HIV infection especially prevalent in sub-Saharan Africa on peripheral and CNS immune responses remains poorly understood. This study aimed to identify the potential impact of HIV coinfection in CC and NCC patients**. Methodology:** A nested study within a cross-sectional analysis in two Tanzanian regions was performed and 234 participants (110 HIV+ and 124 HIV-) were

tested for cysticercosis antibodies, antigens, CD4 counts and serum Th1 and Th2 cytokines via multiplex bead-based immunoassay. 127 cysticercosis seropositive individuals underwent cranial computed tomography (CCT) and clinical symptoms were assessed. Multiple regression analyses were performed to identify factors associated with cytokine modulation due to HIV in CC and NCC patients. **Results:** serologically, 18.8% tested positive for cysticercosis antibodies, with no significant difference HIV+ and HIV+. A significantly higher rate of cysticercosis antigen positivity was found in HIV+ individuals (43.6%) compared to HIV- (28.2%) ($p = 0.016$). CCT scans revealed that overall 10.3% had active brain cysts (NCC+). Our study found no significant changes in the overall cytokine profiles between HIV+ and HIV- participants coinfected CC and NCC, except for IL-5 which was elevated in HIV+ individuals with cysticercosis. Furthermore, HIV infection in general was associated with increased levels of pro-and some anti-inflammatory cytokines e.g. TNF-α, IL-8, and IFN-γ. However, based on the interaction analyses, no cytokine changes were observed due to HIV in CC or NCC patients. **Conclusions:** In conclusion, while HIV infection itself significantly modulates levels of key cytokines such as TNF-α, IL-8, and IFN-γ, it does not modulate any cytokine changes due to CC or NCC. This underscores the dominant influence of HIV on the immune system and highlights the importance of effective antiretroviral therapy in managing immune responses in individuals coinfected with HIV and CC/NCC.

86. Lichtwarck, H.O., Massawe, E.P., Mmbaga, E.J., *et al*… (2024). What can PrEP do for female sex workers? unpacking the "effectosphere" of biomedical HIV prevention in Dar es Salaam. *Social Science & Medicine*. Vol.358(117245).

Doi: 10.1016/j.socscimed.2024.117245.

ABSTRACT

Pre-exposure prophylaxis (PrEP) is a drug with the power to prevent HIV transmission. This study delved into the broader implications of PrEP use among female sex workers in Dar es Salaam, Tanzania, a group disproportionately affected by HIV and socio-structural challenges. Through 46 in-depth interviews with 40 women who were either former or current PrEP users or intended to start PrEP between January 2021 and February 2022, we sought to explore the nuanced effects of PrEP. Inspired by Whyte et al. and "Social Life of Medicines", we asked what PrEP could do in the lives of female sex workers and analyzed the data using reflexive thematic analysis and an interpretative phenomenological approach. We found that PrEP had multiple and diverse effects in many domains of women's lives and refer to these collectively as the "effectosphere" of PrEP. The study identifies four key themes that jointly describe this effectosphere: (1) PrEP could promote human flourishing and empowerment by facilitating a feeling of freedom and confidence which could promote health, social relations, and economic and work opportunities, (2) PrEP could inflict harm (and fears of such harms), partially reflecting medical mistrust rooted in an understanding that sex workers were undesired in society, (3) PrEP could expose sensitive information about its users that could lead to stigma, arguments and needs for elaborate explanations, and (4) PrEP could medicalize daily life, evidenced through daily pill taking, clinical appointments, side-effects, becoming reliant on the medication, and the challenges of integrating PrEP use with other life priorities. We argue that investigating the full effectosphere of any medicine in particular geographic and sociocultural contexts can lead to a better understanding of its use and non-use, highlighting that engaging with medication extends beyond just "taking a pill."

87. **Lidenge, S.J., Yalcin, D., Bennett, S.J., *et al*… (2024) Viral Epitope Scanning Reveals Correlation between Seasonal HCoVs and SARS-CoV-2 Antibody Responses among Cancer and Non-Cancer Patients. *Viruses.* Vol.16 (3).**

Doi:10.3390/v16030448.

ABSTRACT

Background: Seasonal coronaviruses (HCoVs) are known to contribute to cross-reactive antibody (Ab) responses against SARS-CoV-2. While these responses are predictable due to the high homology between SARS-CoV-2 and other CoVs, the impact of these responses on susceptibility to SARS-CoV-2 infection in cancer patients is unclear. To investigate the influence of prior HCoV infection on anti-SARS-CoV-2 Ab responses among COVID-19 asymptomatic individuals with cancer and controls without cancers, we utilized the VirScan technology in which phage immunoprecipitation and sequencing (PhIP-seq) of longitudinal plasma samples was performed to investigate high-resolution (i.e., epitope level) humoral CoV responses. Despite testing positive for anti-SARS-CoV-2 Ab in the plasma, a majority of the participants were asymptomatic for COVID-19 with no prior history of COVID-19 diagnosis. Although the magnitudes of the anti-SARS-CoV-2 Ab responses were lower in individuals with Kaposi sarcoma (KS) compared to non-KS cancer individuals and those without cancer, the HCoV Ab repertoire was similar between individuals with and without cancer independent of age, sex, HIV status, and chemotherapy. The magnitudes of the anti-spike HCoV responses showed a strong positive association with those of the anti-SARS-CoV-2 spike in cancer patients, and only a weak association in non-cancer patients, suggesting that prior infection with HCoVs might play a role in limiting SARS-CoV-2 infection and COVID-19 disease severity.

88. **Lidenge, S.J., Yalcin, D., Bennett, S.J., *et al*… (2024). Viral Epitope Scanning Reveals Correlation between Seasonal HCoVs and SARS-CoV-2 Antibody Responses among Cancer and Non-Cancer Patients. *Viruses.* Vol.16 (3).**

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Keywords: SARS-CoV-2; HCoVs; VirScan; antibody; cancer

89. Liu, E., Manji, K.P., Kirby, M.A., *et al*… (2024). Effects of zinc supplementation on metabolomic profiles in Tanzanian Infants: A randomized trial. *The Journal of Nutrition*. Vol. 154(2).

Doi: 10.1016/j.tjnut.2023.12.011.

ABSTRACT

Background: Provision of zinc supplementation to young children has been associated with reduced infectious morbidity and better growth outcomes. However, the metabolic pathways underlying these outcomes are unclear, and metabolomics data from humans undergoing zinc supplementation, particularly infants, are generally lacking. **Objectives:** This study aimed to examine the effect of zinc supplementation on metabolic profiles in Tanzanian infants aged 6 wk and 6 mo. **Methods:** Blood samples were collected at age 6 wk and 6 mo from 50 Tanzanian infants who were enrolled in a randomized placebo-controlled trial of zinc supplementation (5 mg oral daily). Metabolomic analysis using an ultrahigh-performance liquid chromatography/tandem mass spectroscopy platform was performed to identify potential metabolomic profiles and biomarkers associated with zinc supplementation. Principal component analysis (PCA) was used to summarize metabolomic data from all samples. Two-way repeated measures analysis of variance with compound symmetry covariance structures were used to compare metabolome levels over time between infants in the 2 treatment arms. **Results:** In PCA, the samples tended to be more separated by child age (6 wk compared with 6 mo) than by zinc supplementation status. We found that zinc supplementation affected a variety of metabolites associated with amino acid, lipid, nucleotide, and xenobiotic metabolism, including indoleacetate in the tryptophan metabolism pathway; 3-methoxytrosine and 4-hydrxoyphenylphruvate in the tyrosine pathway; eicosanedioate, 2-aminooctanoate, and N-acetyl-2-aminooctanoate in the fatty acid pathway; and N6-succinyladenosine in the purine metabolism pathway. Compared to the relatively small number of metabolites associated with zinc supplements, many infant metabolites changed significantly from age 6 wk to 6 mo. **Conclusions:** Zinc supplementation, despite having overall clinical benefits, appears to induce limited metabolomic changes in

blood metabolites in young infants. Future larger studies may be warranted to further examine metabolic pathways associated with zinc supplementation.

90. **Liu, S., Kazonda, P., Leyna, G.H., *et al*… (2024). Emotional and cognitive influences on alcohol consumption in middle-aged and elderly Tanzanians: A population-based study. *Scientific reports*. Vol. 14(1).**

Doi: s41598-024-64694-1.

ABSTRACT

Alcohol consumption in Tanzania exceeds the global average. While sociodemographic difference in alcohol consumption in Tanzania have been studied, the relationship between psycho-cognitive phenomena and alcohol consumption has garnered little attention. Our study examines how depressive symptoms and cognitive performance affect alcohol consumption, considering sociodemographic variations. We interviewed 2299 Tanzanian adults, with an average age of 53 years, to assess their alcohol consumption, depressive symptoms, cognitive performance, and sociodemographic characteristics using a zero-inflated negative binomial regression model. The logistic portion of our model revealed that the likelihood alcohol consumption increased by 8.4% (95% confidence interval [CI] 3.6%, 13.1%, $p < 0.001$) as depressive symptom severity increased. Conversely, the count portion of the model indicated that with each one-unit increase in the severity of depressive symptoms, the estimated number of drinks decreased by 2.3% (95% CI [0.4%, 4.0%], $p = .016$). Additionally, the number of drinks consumed decreased by 4.7% (95% CI [1.2%, 8.1%], $p = .010$) for each increased cognitive score. Men exhibited higher alcohol consumption than women, and Christians tended to consume more than Muslims. These findings suggest that middle-aged and elderly adults in Tanzania tend

to consume alcohol when they feel depressed but moderate their drinking habits by leveraging their cognitive abilities.

91. **Lukoo, S., Musa, B., Salingwa, L., *et al*… (2024). The diagnostic accuracy of triphasic abdominal CT in detecting esophageal varices. *BMC Medical Imaging*. Vol. 24(1).**

Doi:10.1186/s12880-024-01388-0.

ABSTRACT

Background: In Tanzania, triphasic abdominal Computed Tomography (CT) is a more accessible and non-invasive alternative for diagnosing esophageal varices, though its accuracy has not been thoroughly evaluated, therefore this study aimed to determine the diagnostic accuracy of triphasic abdominal CT in detecting esophageal varices using esophagogastroduodenoscopy (OGD) as the gold standard among patients with upper gastrointestinal bleeding at Muhimbili National Hospital (MNH). **Methods:** This cross-sectional study was conducted at MNH from January 2021 to May 2023. We sampled upper gastrointestinal bleeding patients who underwent both OGD and triphasic abdominal CT using non-probability consecutive sampling. The sensitivity, specificity, negative predictive value (NPV), positive predictive value (PPV), and accuracy of triphasic abdominal CT were assessed against OGD findings. **Results:** In a study of 200 participants, esophageal varices were detected in 54% by OGD and 53.5% by CT. We observed 105 true positives, 2 false positives, 90 true negatives, and 3 false negatives. Triphasic abdominal CT demonstrated a sensitivity of 97.2%, specificity of 97.8%, PPV of 98.1%, NPV of 96.8%, and an accuracy of 97.5%. Extraluminal findings included portal venous thrombosis in (22%), splenic collateral (51.5%), ascites (32%), hepatocellular carcinoma (13%), and periportal fibrosis (32%). **Conclusion:** Triphasic abdominal Computed Tomography can be used as a reliable

and non-invasive alternative modality for diagnosing and screening esophageal varices in resource-limited settings.

92. **Lukumay, G.G., Mushy, S.E., Mgopa, L.R., *et al*… (2024). Healthcare professional students' skills in sexual health communication and history taking: Inter-rater reliability of standardized patients and faculty ratings in Dar es Salaam, Tanzania-a cross-sectional study. *BMC Medical Education*. Vol.24(627).**

Doi:10.1186/s12909024056078.

ABSTRACT

Background: Low- and middle-income countries face a disproportionate impact of sexual health problems compared to high-income countries. To address this situation proper interpersonal communication skills are essential for clinician to gather necessary information during medical history-taking related to sexual health. This study aimed to evaluate the interrater reliability of ratings on sexual health-related interpersonal communication and medical history-taking between SPs and trained HCP faculty for health care professional students. **Methods:** We conducted a cross-sectional comparative study to evaluate the interrater reliability of ratings for sexual health-related interpersonal communication and medical history-taking. The data were collected from medical and nursing students at Muhimbili University of Health and Allied Sciences, who interviewed 12 Standardized Patients (SPs) presenting with sexual health issues. The video-recorded interviews rated by SPs, were compared to the one rated by 5 trained Health Care Professional (HCP) faculty members. Inter-rater reliability was evaluated using percent agreement (PA) and kappa statistics (κ). **Results:** A total of 412 students (mean age 24) were enrolled in the study to conduct interviews with two SPs presenting with sexual health concerns. For interpersonal communication (IC), the overall median agreement between raters was slight (κ2

0.0095; PA 48.9%) while the overall median agreement for medical sexual history-taking was deemed fair (κ2 0.139; PA 75.02%). **Conclusion:** The use of SPs for training and evaluating medical and nursing students in Tanzania is feasible only if they undergo proper training and have sufficient time for practice sessions, along with providing feedback to the students.

Keywords: Standardized patient, Sexual health, History taking.

93. **Lweno, O., Reynolds, V.S., Barberio, M.D., *et al*… (2024). Single-blinded, stratified, dose ranging trial to assess pharmacokinetics and identify optimal dose of vitamin B12 in pregnancy in Tanzania [version 1; peer review: awaiting peer review].** ***Gates Open Res*** **8:95**

Doi:10.12688/gatesopenres.15991.1.

ABSTRACT

Background: Vitamin B12 is an essential cofactor for two enzymes that have critical functions in pregnancy, both for maternal health and fetal development. However, the optimal supplemental dosage and its correlation with vitamin B12 status during pregnancy remain inadequately understood due to limited data. **Methods:** This is a single-blinded, stratified, dose-ranging trial of vitamin B12 supplementation that will be conducted at the Ifakara Health Institute Bagamoyo Clinical Trial Unit in Bagamoyo, Tanzania. We will enroll 40 pregnant participants (gestational age 25–28 weeks) and 10 non-pregnant participants, stratified based on baseline vitamin B12 status (sufficient and insufficient). Pregnant participants are sequentially assigned to one of three doses: 2.6, 10, and 50 µg for four weeks. At the highest dose, pregnant participants are randomized to receive 50 µg once a day (Q24H) or 25 µg twice a day (Q12H). The two lower doses (2.6 and 10 µg) are given Q24H. Non-pregnant participants will receive 2.6 µg Q24H. The trial includes a four-week in-patient phase

for daily assessment and controlled feeding, with pregnant participants assessed once postpartum. Primary endpoints include serum B12 concentrations, holo transcobalamin concentrations, and their ratio after four weeks of daily supplementation. **Discussion:** This study aims to deepen our understanding of nutrient requirements in pregnancy by generating high-quality, high-dimensional data. We will answer questions about how pre-supplementation vitamin B12 status and dosage impact vitamin B12 saturable absorption and steady-state over the course of four weeks. Limitations include our inability to assess pharmacokinetic changes across gestation, the impact of vitamin B12 status or supplementation on pregnancy and fetal/newborn health, comparing vitamin B12 effects between pregnant and non-pregnant individuals above the recommended dietary allowance (2.6 µg), and comparing Q12H and Q24H dosing at 50 µg. This is the first controlled feeding study to be conducted in sub-Saharan Africa. Registration ClinicalTrials.gov (NCT05426395, 16/06/2022).

Keywords: Vitamin B12 Deficiency, Pregnancy, Controlled Feeding, Randomized Trial, Tanzania

94. **Lyimo *et al* (2024) Genetic polymorphism and evidence of signatures of selection in the Plasmodium falciparum circumsporozoite protein gene in Tanzanian regions with different malaria endemicity.**

Doi:10.1186/s12936-024-04974-3.

ABSTRACT

Background: In 2021 and 2023, the World Health Organization approved RTS, S/AS01, and R21/Matrix M malaria vaccines, respectively, for routine immunization of children in African countries with moderate to high transmission. These vaccines are made of Plasmodium falciparum circumsporozoite protein (PfCSP), but polymorphisms in the gene raise concerns regarding strain-specific responses and the

long-term efficacy of these vaccines. This study assessed the Pfcsp genetic diversity, population structure, and signatures of selection among parasites from areas of different malaria transmission intensities in Mainland Tanzania, to generate baseline data before the introduction of the malaria vaccines in the country. **Methods:** The analysis involved 589 whole genome sequences generated by and as part of the MalariaGEN Community Project. The samples were collected between 2013 and January 2015 from five regions of Mainland Tanzania: Morogoro and Tanga (Muheza) (moderate transmission areas), and Kagera (Muleba), Lindi (Nachingwea), and Kigoma (Ujiji) (high transmission areas). Wright's inbreeding coefficient (Fws), Wright's fixation index (FST), principal component analysis, nucleotide diversity, and Tajima's D were used to assess within-host parasite diversity, population structure, and natural selection. **Results:** Based on Fws (< 0.95), there was high polyclonality (ranging from 69.23% in Nachingwea to 56.9% in Muheza). No population structure was detected in the Pfcsp gene in the five regions (mean FST = 0.0068). The average nucleotide diversity (π), nucleotide differentiation (K), and haplotype diversity (Hd) in the five regions were 4.19, 0.973, and 0.0035, respectively. The C-terminal region of Pfcsp showed high nucleotide diversity at Th2R and Th3R regions. Positive values for the Tajima's D were observed in the Th2R and Th3R regions consistent with balancing selection. The Pfcsp C-terminal sequences revealed 50 different haplotypes (H_1 to H_50), with only 2% of sequences matching the 3D7 strain haplotype (H_50). Conversely, with the NF54 strain, the Pfcsp C-terminal sequences revealed 49 different haplotypes (H_1 to H_49), with only 0.4% of the sequences matching the NF54 strain (Hap_49). **Conclusions:** The findings demonstrate high diversity of the Pfcsp gene with limited population differentiation. The Pfcsp gene showed positive Tajima's D values, consistent with balancing selection for variants within Th2R and Th3R regions. The study observed differences between the intended haplotypes incorporated into the RTS, S, and R21 vaccine design and those present in natural parasite populations. Therefore, additional research is warranted, incorporating other regions and more

recent data to assess trends in genetic diversity within this important gene comprehensively. Such insights will inform the choice of alleles in future vaccines.

95. **Lyimo, A., Mmbaga, B., Mahmoud, A., *et al*… (2024). Efficacy of mobile phone intervention to increase male partner antenatal care attendance for HIV testing. *BMC Pregnancy and Childbirth.* Vol. 24(306).**

Doi:10.1186/s12884-024-06337-x.

ABSTRACT

Background: HIV partner counseling and testing in antenatal care (ANC) is a crucial strategy to raise the number of males who know their HIV status. However, in many settings like Tanzania, male involvement in antenatal care remains low, and there is a definite need for innovative strategies to increase male partner involvement. This study evaluated the efficacy of mobile phone intervention in increasing male partner ANC attendance for HIV testing in Moshi municipal, Tanzania. **Methods:** Between April and July 2022, we enrolled pregnant women presenting to a first ANC visit at Majengo and St. Joseph reproductive health facilities without their male partners. Eligible pregnant women were randomly assigned to invitation of their male partners either via phone calls, text messages from clinic staff, and verbal invites from pregnant partners (intervention arm) or verbal invites only from the pregnant partners (control arm). Neither the healthcare provider nor participant was blinded. The primary outcome was the proportion of male partners who attended ANC with their pregnant partners during a follow-up period of two consecutive visits. The secondary outcome measure was HIV testing among male partners following the invitation. Participants were analyzed as originally assigned (intention to treat). **Results:** A total of 350 pregnant women presenting to ANC for the first time were enrolled, with 175 women enrolled in each arm. The efficacy of male attendance with their pregnant women following the

invitations was 83.4% (147/175) in the intervention arm and 46.3% (81/175) in the control arm. Overall, the results suggest a positive and statistically significant average treatment effect among men who received mobile phone intervention on ANC attendance. For the secondary outcome, the percentage of male partners who accepted HIV counseling and testing was 99.3% (146/147) in the intervention arm and 93.8% (76/81) in the control arm. Married men had higher odds of ANC attendance compared with single men (aOR:6.40(3.26–12.56), Males with multigravida women had lower odds of ANC attendance compared with primigravida women (aOR:0.17(0.09–0.33). **Conclusion:** The study demonstrates that supplementing verbal invitations with mobile phone calls and text messages from clinic staff can significantly increase male partner ANC attendance and HIV testing. This combined approach is recommended in improving ANC attendance and HIV testing of male partners who do not accompany their pregnant partners to antenatal clinics in the first visits.

96. **Lyimo, A.A., Guo, J., Mushy, S.E., *et al*… (2024). Use of contraceptives and associated factors among male adolescents in rural secondary schools, coast region, Tanzania: A school-based cross-sectional study. *Contraception and Reproductive Medicine*. Vol.9(1).**

    Doi:10.1186/s40834-024-00268-w.

    ABSTRACT

    Background: Teenage pregnancy is still one of the reproductive health concerns facing adolescents in Tanzania. The problem has been associated with physiological, psychological, and social changes and increases the risk of unsafe abortion and adverse maternal, fetal, and neonatal outcomes among adolescents. Low utilization of contraceptive methods among adolescents is one of the key causes. The strategy of involving male adolescents in sexual and reproductive health programs can increase

the rate of contraceptive use among adolescents, thereby preventing teenage pregnancy. **Objective:** To examine factors associated with the uptake of contraceptives among male secondary school adolescent students. **Methods:** This was a cross-sectional study conducted in rural secondary schools in Kisarawe District, Coast Region, Tanzania. Multi-stage sampling methods were used to recruit participants. Descriptive and multiple regression analyses were conducted to assess the prevalence and factors associated with contraceptive use. 95% confidence interval and p-value < 0.05 were considered statistical significance. Univariate and multivariate logistic regression were tested for the Crude Odds Ratio (COR) and Adjusted Odds Ratio (AOR) respectively. **Results:** The study involved 422 male students with the majority of them 58.1% aged 17–19 years, 50.2% were Muslim, 76.3% were studying in government schools, 62.3% were from households size of 4–6 members, 87.4% were not in a relationship, and 64.2% were living with both parents. Less than half (38.9%) of male students reported ever having sex in their lifetime, and among them, very few (29.8%) used any method of contraceptive. The reported lowest age for the first sex was 10 years. The male condom was the most method used (69.4%) and Pharmacy/Chemist Shops were the common source of contraceptive services (55.1%). Students who had adequate knowledge of contraceptives were more likely to report the use of contraceptive methods compared to those who had inadequate knowledge (AOR = 2.704, 95% CI: 1.220–5.995, p = 0.014). Participants in Private schools were 4.3 times more likely to report the use of contraceptives than those in government schools (AOR = 4.347, 95% CI: 1.758–10.762, p = 0.01). Students in a relationship were 3.5 times more likely than those not in a relationship to report the use of a contraceptive method (AOR = 3.51, 95% CI: 1.421–8.670, p = 0.006). **Conclusion:** The study found the low use of contraceptives among male adolescents who ever had sex in their lifetime. Thus, it's suggested that age-tailored comprehensive sexual and reproductive health education should start to be taught from a very young age as adolescents initiate sex at an early age. Also, Teenage pregnancy prevention programs

should involve males as the key players during the development and implementation of the program as most of the decisions among partners are from men.

97. **Lyimo, E.J., Msangi, M., Zangira, A.J., *et al*… (2024). Healthcare-seeking behaviours among mother's having under-five children with severe wasting in Dodoma and Mbeya regions of Tanzania: A qualitative study. *PLOS Glob Public Health.* Vol. 4(1).**

Doi: 10.1371/journal.pgph.0001943.

ABSTRACT

Maternal healthcare-seeking behavior affects the health and well-being of under-five children. Drawing from the concepts of the health belief model, this study seeks to understand the determinants of health-seeking behaviours among mothers or caregivers of under-fiveyear-old children having severe wasting in Tanzania. A qualitative study employing the ethnography method conducted 32 semi-structured and narrative interviews with healthcare workers, community health workers, traditional healers, religious and village leaders, and mothers or caregivers of children who had acute malnutrition. The analysis of transcripts was done by qualitative content analysis. Further, the thematic analysis was carried out by assigning data into relevant codes to generate categories based on study objectives. Severe wasting among under-five-year-old children was not observed as a serious disease by the majority of mothers or caregivers. The study established that the health systems parameters such as the availability of the community health workers or healthcare providers and the availability of medicines and supplies to the health facility impact on mothers' or caregivers' healthcare-seeking behaviours. The findings also show that long distances to the health facility, behavioural parameters such as lack of awareness, negative perception of the management of severe wasting at the health facility, superstitious

beliefs, women's workload, household food insecurity, and gender issues have a significant role in seeking healthcare. The results reaffirm how a programme on integrated management of severe wasting in Tanzania should encompass sociocultural factors that negatively influence mothers or caregivers of children with acute malnutrition. The programme should focus on engaging community structures including traditional healers, religious and village leaders to address prevailing local beliefs and sociocultural factors.

98. **Mabega, N.G., Mwaisungu, H., Mwing'a, G.P., *et al*… (2024). Dignity preservation among hospitalized patient: A case study of Bugando medical centre, North-Western Tanzania. *European journal of preventive medicine*. Vol. 12(1).**

Doi: 10.11648/j.ejpm.20241201.11.

ABSTRACT

Background: Dignity preservation is regularly emphasized as one of the basic patient rights in both national and international codes of ethics in medical practices. Therefore, it is important to explore this concept based on the patient's experience to maintain and respect their dignity, improve the quality of health services, and increase patient satisfaction in health care. This was a qualitative descriptive study in which 20 hospitalized patients were recruited. Purposive sampling was used to select study participants from wards of different departments of Bugando Medical Centre (BMC). Patients were interviewed about the experience related to the preservation of their dignity during their hospital stay. Data were analyzed using qualitative content analysis. The study aimed to explore the experience of dignity preservation among hospitalized patients during their hospital stay. Four major themes emerged from the analysis of the data obtained from the interview. Patient-Provider relationship, patient involvement in medical care, inadequate privacy and confidentiality, Accessibility and

Affordability of health services. From the patient's experience, human dignity needs to be preserved and maintained in hospitals. Respect for their privacy, confidentiality, and patient involvement in the medical care should be taken into consideration.

Keywords: Dignity, Preservation, Patient, Hospitalized.

99. **Maganda, B.A., Majule, S.A., Myemba, D.T. (2024). Effectiveness of drug dispensing systems tertiary hospital in Tanzania: A comparative study.** ***Tanzania Medical Journal.*** **Vol. 35(1).**

Doi: 10.4314/r0gvww71.

ABSTRACT

Introduction: The quality of pharmaceutical care is affected by the nature of the drug dispensing system in a facility. This study evaluated the effectiveness and operational labor costs between traditional drug dispensing systems (TDDS) and Unit Dose Drug Dispensing Systems (UDDS) at a tertiary hospital in Tanzania. **Methods:** A comparative mixed-method cross-sectional study was conducted at Muhimbili National Hospital involving patients and healthcare professionals (HCPs). Data for medication errors, missed doses, dispensing times, and operational labor costs were collected in standardized collection forms. Qualitative data was collected through in-depth interviews. Thematic analysis was used for qualitative data, while descriptive statistics were used for quantitative data. Comparisons were done by using a t-test, X2 test, and Odds Ratio (OR), a p-value <0.05 was considered for statistical significance. **Results:** The study enrolled 243 patients, finding that patients using TDDS were 16.6 times more likely to miss a dose. Labour costs were statistically significantly higher in UDDS than in TDDS (p=0.003). Also, UDDS had a higher number of patients with medication errors (54.7%) compared to TDDS (45.3%). The average dispensing time was longer (96 minutes) in UDDS compared to 72 minutes in TDDS. HCPs perceived

UDDS as a more effective dispensing system than TDDS through improving inter-professional relationships and drug availability to patients. **Conclusion:** The unit-dose dispensing system effectively reduces missed doses and enhances drug availability to patients and inter-professional relationships but incurs higher labor costs than the traditional dose dispensing system. Its use in other healthcare settings is recommended after operational cost improvement.

Keywords: Effectiveness, Drug dispensing systems, Tertiary Hospital, Tanzania.

100. Maganda, B.A., Munishi, C., Mlyuk, H., *et al*… (2024). Evaluation of dose adjustment in patients with renal impairment at Muhimbili National Hospital in Tanzania. *Hospital Pharmacy*. Vol. 59(1).

Doi: 10.1177/00185787231188921.

ABSTRACT

Background: The burden of renal diseases is increasing in developing countries like Tanzania. Drug accumulation exposes patients with renal impairment to drug toxicity that may lead to adverse drug reactions, poor adherence to treatment, and increased healthcare costs. There is limited information on the appropriateness of dosage regimen adjustment for patients with renal impairment, particularly in developing countries such as Tanzania. This study aimed to investigate the appropriateness of drug dosing in hospitalized patients with renal impairment in Tanzania. **Methods:** This was a retrospective cross-sectional study. It was conducted between November 2019 and April 2020 amongst hospitalized patients at Muhimbili National Hospital. All enrolled patients had serum creatinine levels ≥1.2 mg/dL and taking at least one drug requiring dosage regimen adjustment. Creatinine clearance was calculated from patient serum creatinine using the Cockcroft-Gault equation. Drug dosing appropriateness was determined by comparing the current practice with tertiary references. The relationship

between the patient's baseline characteristics and the rate of dosage regimen adjustment was determined using the X2 test. Univariate and multivariate logistic regression analysis evaluated the predictors of dosing adjustment. **Results:** Most of the enrolled patients, 269 (98.9%) had comorbidities. Of the medication orders included in the final analysis, 372 (27%) needed dosage regimen adjustment. Out of the 372 medication orders, not adjusted were 168 (45.2%), inappropriately adjusted 105 (28.2%), and appropriately adjusted were only 99 (26.6%). In this study, 212 (77.9%) patients received at least one drug with an incorrect dosage regimen. Females and those with level 4 renal impairment patients were more likely to have their doses appropriately adjusted compared to their counterparts. **Conclusions:** In this study, about three-quarters of the patients received at least one drug with an incorrect dosage regimen. Thus, appropriate measures such as the availability of national guidelines and clinical decision support systems for drug dosing adjustment in patients' renal impairment should be in place.

Keywords: drug dose adjustment; prescribing; renal impairment.

101. Majigo, M.V., Mshana, S., Komba, E., *et al*… (2024). Protocol for surveillance of antimicrobial-resistant bacteria causing community-acquired urinary tract infections in low-income countries. *Plos one.* Vol. 19(5).

Doi: 10.1371/journal.pone.0304388.

ABSTRACT

102. Majigo, M.V., Mshana, S., Komba, E., *et al*… (2024). Protocol for surveillance of antimicrobial-resistant bacteria causing community-acquired urinary tract infections in low-income countries. *PLoS ONE*. Vol. 19(5).

Doi: 10.1371/journal. pone.0304388.

ABSTRACT

Background: The spread of drug-resistant bacteria into the community is an urgent threat. In most low-middle-income countries (LMICs) settings, community-acquired infection (CAI) is empirically treated with no data to support the choice of antibiotics, hence contributing to resistance development. Continuous antimicrobial resistance (AMR) data on community-acquired pathogens are needed to draft empirical treatment guidelines, especially for areas with limited culture and susceptibility testing. Despite the importance of addressing antibiotic-resistant pathogens in the community setting, protocols for the surveillance of AMR bacterial infections are lacking in most (LMICs). We present a protocol for surveillance of AMR in LMICs using urinary tract infection (UTI) as a proxy for CAI to enable users to quantify and establish the drivers of AMR bacteria causing UTI. The protocol intends to assist users in designing a sustainable surveillance program for AMR in the community involving children above two years of age and adults presenting to a primary health facility for healthcare. Implementation of the protocol requires initial preparation of the laboratories to be involved, surveillance areas, selection of priority bacteria and antimicrobials to be used, and the design of a coordinated sampling plan. Recruitment should occur continuously in selected health facilities for at least 12 months to observe seasonal trends of AMR. At least 10 mL of clean-catch mid-stream urine must be collected into 20 mL calibrated sterile screw-capped universal bottles lined with 0.2 mg boric acid and transported to the testing laboratory. Utilize the data system that generates standard reports for patient care to be shared internally and externally in the regions and the world through global platforms such as the Global Antimicrobial Resistance Surveillance System.

103. Makene, T., Zacharia, A., Haule, S., *et al*… (2024). Sexual and reproductive health among men with genital schistosomiasis in southern Tanzania: A descriptive study. *PLOS Glob Public Health*. Vol. 4(3).

Doi: 10.1371/journal.pgph.0002533.

ABSTRACT

Male genital schistosomiasis (MGS) is a significantly neglected condition, and its consequences often receive inadequate attention. The disease is suggested to cause schistosomiasis-induced sexual and reproductive health problems among males. The study was conducted to investigate the prevalence of MGS, sexual and reproductive health problems that could be caused by MGS among adult males in Mtama district. A community-based cross-sectional study using quantitative methods was carried out among males aged ≥ 18 years in selected households. Semen and urine samples were collected from each participant to establish the prevalence of MGS and urogenital schistosomiasis respectively. Semen quality was macroscopically and microscopically assessed. Urine samples were analyzed using filtration technique. A structured questionnaire interview was carried out to collect socio-demographic data, sexual and reproductive health information. Descriptive statistics were used to provide a summary of each variable. The prevalence (proportions) were presented in percentages and their respective 95% confidence intervals. A total of 223 adult males participated in this study. The prevalence of MGS and urogenital schistosomiasis were 5.8% (95% CI; 3.1%-9.0%) and 22.4% (95% CI; 16.6%-27.8%) respectively. The prevalence of Schistosoma haematobium eggs in semen was found high among young adults 12/129 (9.3%, 95% CI; 4.9%-15.7%), who never attended to school 6/35 (17.1%, 95% CI; 6.6%-33.6%), petty traders 4/26 (15.4%, 95% CI; 4.4%-34.9%), never impregnated woman 9/70 (12.9%, 95% CI: 6.6%-33.6%), experienced pain during ejaculation 4/17 (23.5%, 95% CI; 4.9%-15.7%), and with brownish semen 2/5 (40%, 95% CI; 4.9%-

15.7%). According to the findings, MGS, like urogenital schistosomiasis, is prevalent in southern Tanzania. The disease is prevalent among males with some reproductive and sexual issues. This highlight the need for more research to investigate the association of MGS and male reproductive and sexual health for improved health services among males.

104. Makoko, D., Kapesa, A., Mugerwa, M., *et al*… (2024). Uptake of COVID-19 vaccination and associated factors among patients attending oncology services in Dar es Salaam, Tanzania: A mixed design methods' trajectory.

Doi:10.21203/rs.3.rs4224875/v1.

ABSTRACT

Background: COVID-19 vaccination campaigns have reduced disease severity and fatalities around the globe. Global data shows that 67.7% of the general population is vaccinated, and Tanzania is reported to have over 70% coverage among individuals who are more than 18 years of age. However, group-specific assessment of the vaccination coverage is needed in sub-Saharan Africa, and cancer patients constitute a special priority group owing to the vulnerability attributable to this group. **Methods:** A cross-sectional study design was conducted in September 2022 at Ocean Road Cancer Institute (ORCI) in Dar Es Salaam, Tanzania. A stratified sampling technique was used for quantitative data collection involving 479 cancer patients, and convenience sampling was applied for qualitative data collection involving 26 patients. Data were analyzed using the statistical software 'R' by logistic regression analysis to determine the association between socio-demographic, clinical, and health belief model (HBM) variables against COVID-19 vaccine uptake among cancer patients. **Results:** A total of 384 (80.2%) participants were female with a mean age (± standard deviation) of 48 ± 12.4 years; ranging from 18 to 83 years. Approximately 58.2% (278/479) of the

participants reported being vaccinated against COVID-19, and 79.5% were females. Having secondary school education or higher education (OR 2.26, CI 1.20–4.27 $p = 0.011$), perception of COVID-19 vaccine (OR 8.86, CI 2.84–32.2, $p < 0.001$), and perceived severity of COVID-19 (OR 0.56, CI 0.36–0.87, $p = 0.010$) were significantly associated with vaccine uptake. In the qualitative part, the findings suggest that individuals' beliefs, perceptions, and external factors play a role in their decision to vaccinate. **Conclusions:** Approximately 6 out of 10 cancer patients at the ORCI reported being vaccinated; with patients' higher education status, perception of the COVID-19 vaccine, and perceived severity being significantly associated with COVID-19 vaccination uptake. Public health interventions should leverage these identified factors to promote vaccine uptake by tailoring communication efforts to specific characteristics.

105. Malla, L., Ohuma, E.O., Shabani, J., *et al*… (2023). COVID-19 pandemic effects on neonatal inpatient admissions and mortality: Interrupted time series analysis of facilities implementing NEST360 in Kenya, Malawi, Nigeria, and Tanzania. *BMC pediatrics*. Vol. 23(657).

Doi: 10.1186/s12887-024-04873-1.

ABSTRACT

Background: The emergence of COVID-19 precipitated containment policies (e.g., lockdowns, school closures, etc.). These policies disrupted healthcare, potentially eroding gains for Sustainable Development Goals including for neonatal mortality. Our analysis aimed to evaluate indirect effects of COVID-19 containment policies on neonatal admissions and mortality in 67 neonatal units across Kenya, Malawi, Nigeria, and Tanzania between January 2019 and December 2021. **Methods:** The Oxford Stringency Index was applied to quantify COVID-19 policy stringency over time for

Kenya, Malawi, Nigeria, and Tanzania. Stringency increased markedly between March and April 2020 for these four countries (although less so in Tanzania), therefore defining the point of interruption. We used March as the primary interruption month, with April for sensitivity analysis. Additional sensitivity analysis excluded data for March and April 2020, modelled the index as a continuous exposure, and examined models for each country. To evaluate changes in neonatal admissions and mortality based on this interruption period, a mixed effects segmented regression was applied. The unit of analysis was the neonatal unit (n = 67), with a total of 266,741 neonatal admissions (January 2019 to December 2021). **Results:** Admission to neonatal units decreased by 15% overall from February to March 2020, with half of the 67 neonatal units showing a decline in admissions. Of the 34 neonatal units with a decline in admissions, 19 (28%) had a significant decrease of ≥ 20%. The month-to-month decrease in admissions was approximately 2% on average from March 2020 to December 2021. Despite the decline in admissions, we found no significant changes in overall inpatient neonatal mortality. The three sensitivity analyses provided consistent findings. **Conclusion:** COVID-19 containment measures had an impact on neonatal admissions, but no significant change in overall inpatient neonatal mortality was detected. Additional qualitative research in these facilities has explored possible reasons. Strengthening healthcare systems to endure unexpected events, such as pandemics, is critical in continuing progress towards achieving Sustainable Development Goals, including reducing neonatal deaths to less than 12 per 1000 live births by 2030.

106. Mally, M., Tesha, N., Anaeli, A. (2024). Breast Cancer awareness and uptake of breast cancer screening services among undergraduate female students in the Oldest University of Tanzania: A Cross-Sectional Study. *Breast Cancer: Basic and Clinical Research*.Vol. 2024(18).

Doi: 10.1177/11782234241274683.

ABSTRACT

Background: Breast cancer is the leading cause of cancer-related death among women worldwide. Mortality from breast cancer can be reduced through early detection and prevention. Despite the availability of breast cancer screening methods, the uptake of screening services remains very low, especially in low-resource countries like Tanzania. This low uptake of screening services may be attributed to a lack of awareness regarding the importance of early detection of the disease. **Objectives**: This study was set to determine breast cancer awareness and the uptake of breast cancer screening services among undergraduate female students in Dar es Salaam, Tanzania. **Design:** The study was a descriptive cross-sectional study using the quantitative approach. **Methods:** The sample size calculated for this study was 434 undergraduate female students. The tool used for data collection was self-administered questionnaires, with data collection taking place in July 2022. Data were analyzed using Stata Version 15 and presented using descriptive and inferential statistics. **Results**: We found that most of the participants (92.38%) had heard about breast cancer, and only 39% of the participants were able to correctly identify the risk factors for breast cancer. Participants who had ever used breast cancer screening services by at least 1 method were 37 (9.23%), and the most common screening method practiced by the study participants was breast self-examination (48.65%). **Conclusions:** Most of the participants were not aware of the screening methods for early detection of breast cancer. In addition, they lacked knowledge of some of the risk factors as evidenced by the low uptake of breast cancer screening services among the study participants. This calls for an awareness-raising campaign on the importance of breast cancer screening

107. Manisha, H., Moshiro, C., Hussein, A., *et al*… (2024). Health insurance financing and patient retention in care at diabetics and hypertension clinics in

Dar es Salaam and Pwani regions, Tanzania: A cohort study. *PLOS Glob Public Health*. Vol. 4(3).

Doi: 10.1371/journal.pgph.0002972.

ABSTRACT

Hypertension and diabetes are chronic conditions that cause major morbidity and mortality worldwide. Whether health insurance financing is associated with improved retention in chronic care in Tanzania, is unknown. Our study establishes the effect of health insurance on retention and the determinants for retention in care among patients attending diabetes and hypertension clinics. We used a Cohort design to study participants enrolled in a cluster-randomized trial of integrated management of HIV, diabetes, and hypertension compared with standard vertical care in the INTE-AFRICA trial. Fifteen health facilities in Dar es Salam and Pwani regions were enrolled, with 1716 participants. Our sample size had 95% power to detect a 50% to 60% retention difference between the insured and uninsured groups (95% CI). We compared proportions using $\chi 2$ tests and obtained prevalence and rate ratios by Generalised Linear Models. We studied 1716 participants for 1612.3 Person-years (PY). At the study's end, 1351 persons were alive and retained in care. Among the insured participants (26.0%), females accounted for 65.9%. Middle-aged adults contributed 58.8% of insured participants. We observed high retention rates (retention incidence rate IR: 83.80/100 PY; 95% CI (79.40–88.40)). There was no difference in retention among insured and uninsured patients (adjusted rate ratio aRR: 1.00; 95% CI, 0.94–1.06). Being middle-aged or senior-aged adults compared to young adults, having diabetes alone or hypertension alone compared to both conditions, having the comorbidity of diabetes or hypertension with HIV compared to a single condition, and attending health centres and hospitals compared to dispensaries were significantly associated with retention in care. This study showed no effect of health insurance on

retention in diabetic and hypertension care clinics. However, age, medical diagnosis, morbidity, and type of health facility attended were associated with retention in care.

108. Manji, K.P., Muhihi, A., Duggan, C.P., *et al*… (2022). Fetal, neonatal, and infant death among offspring of pregnant women living with HIV in Tanzania. *AIDS*. Vol.38(14).

Doi:10.1097/QAD.0000000000003985.

ABSTRACT

Objective: Assess the risk of death for offspring of pregnant women with HIV (PWHIV) and the association with sociodemographic, pregnancy, HIV-related, and birth factors. **Design:** We conducted a prospective cohort study of PWHIV on antiretroviral therapy (ART) and their offspring in urban Tanzania who were enrolled in a vitamin D trial conducted from June 2015 to October 2019.**Methods:** We described rates of fetal, neonatal, and infant death and assessed risk factors for these outcomes with generalized estimating equations. We also estimated population-attributable risk percentages for the contribution of prematurity and small-for-gestational age (SGA) to neonatal and infant mortality. **Results:** Among 2299 PWHIV, there were a total of 136 fetal deaths (5.6%) and the stillbirth rate was 42.0 per 1000 total births. Among 2167 live births, there were 57 neonatal deaths (26.3 per 1000 live births) and 114 infant deaths (52.6 per 1000 live births). Twin birth was associated with neonatal death, while maternal CD4+ T-cell count <350 cells/μl in pregnancy was associated with infant death (P-values < 0.05). As compared to term-appropriate-for-gestational age (AGA) births, the relative risks for neonatal mortality for term-SGA, preterm-AGA, and preterm-SGA infants were 2.07 [95% confidence interval (CI): 1.00–4.28], 2.87 (95% CI 1.54–5.35), and 7.15 (95% CI: 2.11–24.30), respectively. We estimated that 42.7% of neonatal and 29.4% of infant deaths were attributable to

prematurity and SGA in the cohort. **Conclusions:** The risk of death is high for offspring of PWHIV in Tanzania and the combination of prematurity and fetal growth restriction may account for nearly half of neonatal deaths.

109. Manyahi, J., Joachim, A., Msafiri, F., *et al*… (2024). Polymicrobial bloodstream infections a risk factor for mortality in neonates at the national hospital, Tanzania: A case-control study. *Plos one*. Vol.19(4).

Doi: 10.1371/journal.pone.0302076.

ABSTRACT

Background: Polymicrobialbloodstream infections (BSI) are difficult to treat since empiric antibiotic treatments are frequently less effective against multiple pathogens. The study aimed to compare outcomes in patients with polymicrobial and monomicrobial BSIs. **Methods:** The study was a retrospective case-control design conducted at Muhimbili National Hospital for data processed between July 2021 and June 2022. Cases were patients with polymicrobial BSI, and controls had monomicrobial BSI. Each case was matched to three controls by age, admitting ward, and duration of admission. Logistic regression was performed to determine independent risk factors for in-hospital and 30-day mortality. **Results:** Fifty patients with polymicrobial BSI and 150 with monomicrobial BSI were compared: the two arms had no significant differences in sex and comorbidities. The most frequent bacteria in polymicrobial BSI were Klebsiella pneumoniae 17% (17/100) and Enterobacter species 15% (15/100). In monomicrobial BSI, S. aureus 17.33% (26/150), Klebsiella pneumoniae 16.67% (25/150), and Acinetobacter species 15% (15/150) were more prevalent. Overall, isolates were frequently resistant to multiple antibiotics tested, and 52% (130/250) were multidrug resistant. The 30-day and in-hospital mortality were 33.5% (67/200) and 36% (72/200), respectively. On multivariable

analysis, polymicrobial BSIs were independent risk factors for both in-hospital mortality (aOR 2.37, 95%CI 1.20–4.69, p = 0.01) and 30-day mortality (aOR 2.05, 95%CI 1.03–4.08), p = 0.04). In sub-analyses involving only neonates, polymicrobial BSI was an independent risk factor for both 30-day mortality (aOR 3.13, 95%CI 1.07–9.10, p = 0.04) and in-hospital mortality (aOR 5.08, 95%CI 1.60–16.14, p = 0.006). Overall, the median length of hospital stay post-BSIs was numerically longer in patients with polymicrobial BSIs.**Conclusion:** Overall, polymicrobial BSI was a significant risk for mortality. Patients with polymicrobial BSI stay longer at the hospital than those with monomicrobial BSI. These findings call for clinicians to be more aggressive in managing polymicrobial BSI.

110. Manyanga, V.P., Uledi, M.A., Makoye, P.M., *et al*… (2024). Organoleptic quality and formaldehyde content of mackerel marketed in Dar es Salaam, Tanzania. *Food Safety and Risk.* Vol. 11(1).

Doi:10.1186/s40550-024-00107-5.

ABSTRACT

Background: Fish constitutes a nutritious food that deteriorates quickly when poorly preserved. Several biochemicals, including formaldehyde, accumulate naturally in the fish post-mortem. Apart from this natural formaldehyde, reports reveal the deliberate addition of formalin (37% formaldehyde solution) to the stored fish as a preservative. This is risky to consumers since formaldehyde is carcinogenic, genotoxic, and a potentiator of other carcinogens. **Aim:** This study aimed to assess the organoleptic quality and formaldehyde content of mackerels, the most consumed fish in Dar es Salaam, Tanzania. **Methods:** 60 mackerel samples were conveniently and equally obtained from the local markets, street vendors, and supermarkets in five districts of the Dar es Salaam region. Organoleptic quality was evaluated based on organoleptic

characteristics. Formaldehyde analysis was done using high-performance liquid chromatography (HPLC). Analysis of variance was subsequently run to test the variation of formaldehyde content in mackerel by outlet type and district. **Results:** All analyzed mackerel samples had acceptable levels of organoleptic quality (2.46 ± 0.50) and a mean formaldehyde concentration of 10.89 ± 2.44 mg/kg. On average, the samples from supermarkets had the highest level of organoleptic quality (2.20 ± 0.21) but were also the most contaminated with formaldehyde (16.07 ± 4.68 mg/kg), while those from local markets were the least contaminated (3.91 ± 1.86 mg/kg) ($p = 0.000$). Moreover, 0% ($n = 0$), 20% ($n = 4$), and 35% ($n = 7$) of samples from local markets, street vendors, and supermarkets, respectively, had formaldehyde concentrations above 20 mg/kg, the previously estimated highest concentration for naturally formed formaldehyde in fish. **Conclusion:** Mackerels marketed in Dar es Salaam have acceptable organoleptic quality but are substantially contaminated with formaldehyde. Whether this is natural or artificial formaldehyde, our findings are inconclusive given the conflicting global standards. Nonetheless, the findings reveal the potential exposure of fish consumers to formaldehyde. Future research should explore the dynamics of the accumulation of natural formaldehyde in marketed fish and accurately assess the risk associated with the exposure of consumers to the formaldehyde in fish. The emanating findings will ultimately guide the development of local guidelines for natural and permissible formaldehyde concentrations in fish and fish products in Tanzania

111. **Marealle, A.I., Qwarse, M., Nondo, R.S., *et al*… (2024). Therapeutic Potential of Zanha Africana (Radlk.) Exell: Antimycobacterial Activity and Safety Evaluation. *Scientific Africana.* Vol. 26.**

Doi: 10.1016/j.sciaf.2024.e02371.

ABSTRACT

Background: *Zanha Africana* (Radlk.) Excel extracts are commonly utilized in Tanzania and other countries for treating conditions associated with HIV and AIDS, including tuberculosis (TB). In Tanzania, it is listed among the most frequently traded plant species for medicinal use in different marketplaces. However, limited literature exists regarding its antimycobacterial properties and safety profile. **Objective:** This study aimed to evaluate *Z. Africana* ethanol extract for safety and antimycobacterial activity. **Methods:** The antimycobacterial activity of the crude extracts was assessed using the broth micro dilution method against various non-pathogenic mycobacterium strains including *Mycobacterium aurum* (MA), *Mycobacterium madagascariense* (MM), and *Mycobacterium indicus pranii* (MIP). Bioassay-guided fractionation was employed to isolate the active compounds. The safety profile of the crude extract was investigated through cytotoxicity assay on peripheral blood mononuclear cells (PBMCs) and the brine shrimp lethality test. **Results:** The 80% ethanol extracts of *Z. Africana* demonstrated activity against all tested non-pathogenic mycobacterium. The antimycobacterial activity of ethanol extract of the stem bark was 625 µg/mL, 313 µg/mL and 125 µg/mL against MA, MM, and MIP, respectively. The most potent fraction was the ethyl acetate fraction, from which two active compounds were isolated: proanthocyanidin A_2; Compound (**1**) and its monomer epicatechin, Compound (**2**). Compound (**1**) exhibited higher antimycobacterial activity compared to compound **(2**) with minimum inhibitory concentrations (MICs) of 19.50 µg/mL and 12.98 µg/mL against MM and MIP respectively. The ethanol extract did not demonstrate toxicity on PBMCs and brine shrimps. **Conclusion:** This study demonstrates that *Z. Africana* extracts and the isolated compounds possess antimycobacterial activity. This provides evidence supporting the traditional use of *Z. Africana* extracts for TB management. Further research is recommended to comprehensively evaluate the efficacy and safety of the plant constituents using different models.

112. Marealle, A.I., Qwarse, M., Nondo, R.S., *et al...* (2024). Therapeutic potential of Zanha africana (Radlk.) Exell: Ant mycobacterial activity and safety evaluation. *Scientific African*. Vol. 26 (02371).

Doi: 10.1016/j.sciaf.2024.e02371.

ABSTRACT

Background: Zanha africana (Radlk.) Exell extracts are commonly utilized in Tanzania and other countries for treating conditions associated with HIV and AIDS, including tuberculosis (TB). In Tanzania, it is listed among the most frequently traded plant species for medicinal use in different marketplaces. However, limited literature exists regarding its ant mycobacterial properties and safety profile. **Objective:** This study aimed to evaluate Z. Africana ethanolic extract for safety and ant mycobacterial activity. M**ethods:** The ant mycobacterial activity of the crude extracts was assessed using the broth micro dilution method against various non-pathogenic mycobacteria strains including Mycobacterium aurum (MA), Mycobacterium madagascariense (MM), and Mycobacterium indicus pranii (MIP). Bioassay-guided fractionation was employed to isolate the active compounds. The safety profile of the crude extract was investigated through cytotoxicity assay on peripheral blood mononuclear cells (PBMCs) and the brine shrimp lethality test. **Results:** The 80% ethanolic extracts of Z. Africana demonstrated activity against all tested non-pathogenic mycobacteria. The ant mycobacterial activity of ethanolic extract of the stem bark was 625 µg/mL, 313 µg/mL and 125 µg/mL against MA, MM, and MIP, respectively. The most potent fraction was the ethyl acetate fraction, from which two active compounds were isolated: proanthocyanidin A2; Compound (1) and its monomer epicatechin, Compound (2). Compound (1) exhibited higher ant mycobacterial activity compared to compound (2) with minimum inhibitory concentrations (MICs) of 19.50 µg/mL and 12.98 µg/mL against MM and MIP respectively. The ethanolic extract did not

demonstrate toxicity on PBMCs and brine shrimps. **Conclusion:** This study demonstrates that Z. africana extracts and the isolated compounds possess ant mycobacterial activity. This provides evidence supporting the traditional use of Z. africana extracts for TB management. Further research is recommended to comprehensively evaluate the efficacy and safety of the plant constituents using different models.

113. Marisa, G., Kapala, J., Mafuru, T., *et al*… (2024). Quality evaluation of locally manufactured paracetamol tablets in East Africa. *BioMed Research International*. Vol. 2024(1).

Doi: org/10.1155/2024/9437835.

ABSTRACT

Background: Paracetamol, also known as acetaminophen, is categorized as an analgesic and antipyretic medication and is available as over the counter (OTC) medication. It is commonly used in conditions associated with pain and fever. There is a tendency for community to prefer using imported paracetamol tablets from Europe and United States than from Asia and Africa worrying of the quality of the products. Safety, effectiveness, and efficacy of a medicine can be guaranteed when its quality is reliable; however, there is limited data on the quality of locally manufactured paracetamol tablets, thus necessitating this study. **Aim:** This study is aimed at assessing the quality of paracetamol tablets 500 mg manufactured by local companies by evaluating their physical parameters, assay results, and dissolution profiles. The compliance of these tablets with the specifications outlined in the British Pharmacopoeia (BP) was analyzed. Additionally, a comparative dissolution test was conducted to assess dissolution profile for innovator product and generics. **Method:** Five different brands from East African countries with 76 tablets from each brand were

compared with the innovator product regarding weight variation, hardness, friability, assay, and dissolution test based on the BP specifications. **Results and discussion:** All samples of paracetamol tablets 500 mg from the local manufacturers in this study met the specifications set by the BP for physical parameters, including weight variation, friability, hardness, and disintegration tests. The weight variation test, directly related to drug content variation, demonstrated compliance within the acceptable deviation of 5%. Similarly, the assay test, which determines the concentration of the active pharmaceutical ingredient (API), confirmed that all samples complied with the acceptable concentration range of 90%–110% for paracetamol. The dissolution test, assessing the percentage release of the API within a specified time, demonstrated that at 15 min, two samples (diodol and enamol) exhibited lower concentration releases than the required 80%, indicating potential delays in their bioavailability and onset of action. **Conclusion:** To conclude, all samples had good quality and they can be used for their therapeutic purposes.

114. **Masamu, U., Sangeda, R.Z., Mgaya, J., *et al*… (2024). Improved biorepository to support sickle cell disease genomics and clinical research: A practical approach to link patient data and biospecimens from Muhimbili Sickle Cell Program, *Tanzania. Bio preservation and Biobanking.* Vol. 22(3).**

ABSTRACT

In Africa, sickle cell disease phenotypes' genetic contributors remain understudied due to the dearth of databases that pair biospecimens with demographic and clinical details. The absence of bio repositories in these settings can exacerbate this issue. This article documents the physical verification process of bio specimens in the bio repository, connecting them to patient clinical and demographic data and aiding in the planning of future genomic and clinical research studies' experience from the Muhimbili Sickle Cell Program in Dar es Salaam, Tanzania. The bio specimen database was updated

with the current bio specimen position following the physical verification and then mapping this information to its demographic and clinical data using demographic identifiers. The bio repository stored 74,079 bio specimens in three −80°C freezers, including 63,345 from 5159 patients enrolled in the cohort between 2004 and 2016. Patients were identified by a control (first visit), entry (when confirmed sickle cell homozygous), admission (when hospitalized), and follow-up numbers (subsequent visits). Of 63,345 bio specimens, follow-ups were 46,915 (74.06%), control 8067 (12.74%), admission 5517 (8.71%), and entry 2846 (4.49%). Of these registered patients, females were 2521 (48.87%) and males were 2638 (51.13%). The age distribution was 1–59 years, with those older than 18 years being 577 (11.18%) and children 4582 (88.82%) of registered patients. The notable findings during the process include a lack of automated bio specimen checks, laboratory information management system, and tubes with volume calibration; this caused the verification process to be tedious and manual. Bio specimens not linked to clinical and demographic data, date format inconsistencies, and lack of regular updating of a database on exhausted bio specimens and updates when bio specimens are moved between positions within freezers were other findings that were found. A well-organized bio repository plays a crucial role in answering future research questions. Enforcing standard operating procedures and quality control will ensure that laboratory users adhere to the best bio specimen management procedures.

115. Maseke, I., Joachim, A., Kamori, D., *et al*… (2024). Prevalence of human immunodeficiency virus drug resistance and factors associated with high viral load among adolescents on antiretroviral therapy in Dar Es Salaam, Tanzania. *HIV Research & Clinical Practice*. Vol. 25(1).

Doi:10.1080/25787489.2024.2400827.

ABSTRACT

Background: Resistance to antiretrovirals against human immunodeficiency virus (HIV) poses a threat to zero transmission of HIV by 2030. Few studies have been conducted on HIV drug resistance (HIVDR) mutations targeting adolescents. We determined the prevalence, pattern of HIVDR mutations, and factors associated with unsuppressed HIV viral load among adolescents on antiretroviral therapy (ART). **Methods:** From March to June 2020, we conducted a cross-sectional study at the Infectious Disease Clinic in Dar es Salaam, Tanzania. HIV-1 viral load was tested using m2000rt Real-Time HIV-1 assay. A sample with a viral load equal or more than 1,000 copies/ml was tested for HIVDR mutations. We determined the factors associated with unsuppressed viral load using logistic regression. A p-value less than 0.05 was considered significant. **Results:** We enrolled 131 participants with a median age (interquartile range) of 15 (13–18) years. Of all, 24(18.3%) had a viral load above 1000 copies/ml. HIVDR mutations were found in 19/24(68.4%). Mutation to protease inhibitors, nucleotide reverse transcriptase inhibitors, and non-nucleoside reverse transcriptase inhibitors were 1(5.2%), 9(47.4%), and 11(57.9%), respectively. Non-antiretroviral therapy and orphanages were independently associated with unsuppressed viral load. **Conclusion:** The prevalence of HIVDR and unsuppressed HIV viral load among adolescents are relatively high. The use of non-antiretroviral therapy and orphanage influenced the persistence of high viral load. Strategies for surveillance of HIVDR early warning signs should be devised among adolescents.
Keywords: Adolescents HIV drug resistancedrug resistance mutationviral load.

116. **Masoud, N.S., Knopp, S., Lenz, N., e*t al*… (2024). The impact of soil transmitted helminth on malaria clinical presentation and treatment outcome: A case control study among children in Bagamoyo district, coastal region of Tanzania. *PLOS Neglected Tropical Diseases*. Vol. 18(8).**

Doi:/10.1371/journal.pntd.0012412.

ABSTRACT

Background: Parasitic infectious agents rarely occur in isolation. Epidemiological evidence is mostly lacking, and little is known on how the two common parasites Plasmodium and soil transmitted helminths (STH) interact. There are contradictory findings in different studies. Synergism, antagonism and neutral effect have been documented between Plasmodium and STH. This study investigated the impact of STH on clinical malaria presentation and treatment outcome. **Methods:** A matched case control study with a semi longitudinal follow up according to World Health Organization (WHO) antimalarial surveillance guideline was done among children aged 2 months to 9 years inclusively living in western rural areas of Bagamoyo, coastal region of Tanzania. Cases were children with uncomplicated and severe malaria enrolled from the health facilities while controls were children with asymptomatic Plasmodium parasitemia enrolled from the same community. **Results:** In simple conditional regression analysis there was a tendency for a protective effect of STH on the development of clinical malaria [OR = 0.6, 95% CI of 0.3–1.3] which was more marked for Enterobius vermicularis species [OR = 0.2, 95% CI of 0.0–0.9]. On the contrary, hookworm species tended to be associated with increased risk of clinical malaria [OR = 3.0, 95% CI of 0.9–9.5]. In multiple conditional regression analysis, the overall protective effect was lower for all helminth infection [OR = 0.8, 95% CI of 0.3–1.9] but remained significantly protective for E. vermicularis species [OR = 0.1, 95% CI of 0.0–1.0] and borderline significant for hookworm species [OR = 3.6, 95% CI of 0.9–14.3]. Using ordinal logistic regression which better reflects the progression of asymptomatic Plasmodium parasitemia to severe malaria, there was a 50% significant protective effect with overall helminths [OR = 0.5, 95% CI of 0.3–0.9]. On the contrary, hookworm species was highly predictive of uncomplicated and severe malaria [OR = 7.8, 95% (CI of 1.8–33.9) and 49.7 (95% CI of 1.9–1298.9) respectively]. Generally, children infected with STH had higher geometric mean time

to first clearance of parasitemia. **Conclusion:** The findings of a protective effect of E. vermicularis and an enhancing effect of hookworms may explain the contradictory results found in the literature about impact of helminths on clinical malaria. More insight should be gained on possible mechanisms for these opposite effects. These results should not deter at this stage deworming programs but rather foster implementation of integrated control program for these two common parasites.

117. Masoud, N.S., Suleman, N.S., Swai, P., *et al*… (2024). Clinical outcomes, barriers and facilitators to hydroxyurea use for sickle cell anemia: A mixed method study at Muhimbili National Hospital, Tanzania. *Tanzania Medical Journal*. Vol.35(1).

Doi:10.4314/jhrpgv89.

ABSTRACT

Background: Tanzania is among the five countries with the highest estimated number of newborns with Sickle cell disease (SCD) in sub-Saharan Africa. Hydroxyurea (HU) is recommended for infants from 9 months of age, all children and adolescents with Sickle Cell Anaemia (SCA) however it's utilization in clinical practice is not optimal. **Materials and Methods:** A mixed method study was conducted from October 2019 to January 2020 among children with SCA attending a tertiary paediatric haematology clinic at Muhimbili National Hospital. Children between the age of 6 months and 18 years were consecutively included based on inclusion/exclusion criteria set for the quantitative study. Structured questionnaires were used to collect data based on the purpose of the study. Caregivers of children with SCA, clinicians, and pharmacists participated in four focus group discussions to explore barriers and facilitators to hydroxyurea (HU) use. A sequential explanatory design was used, quantitative data analysis was conducted using SPSS (version 21) and content thematic approach for the

qualitative data. **Results:** Out of 400 children enrolled, 59% were males with a median age of diagnosis at 2 years and 8 months (IQR 1- 4). The coverage gap to initiation of HU was 65% (260/400) and children who were on HU being less likely to be transfused (6.4% Vs 14.6%, p value < 0.05), and had a trend of lesser hospitalization, (9.3% Vs 12.3%, p value 0.33) compared to non-users respectively. Common reasons holding the coverage were caregiver's unawareness (61%) and lack of medical insurance/affordability (29%). Qualitative learnings showed facilitators for HU use included improved symptoms, good compliance, and financial stability/active medical insurance. Even with medical insurance, longer time to get special permit to access it and fare/monthly clinic attendance because of limited supply were among the barrier to use HU. Poor knowledge/awareness for both parents and clinicians, and fear of side effects were also reported. **Conclusion and recommendations:** Children with SCA were diagnosed late, and coverage for HU use was low. Increasing awareness, effective use of medical insurance and improving access of hydroxyurea within the health system would be vital for quality care among children with SCA.**Keywords:** Hydroxyurea, Clinical outcome, Utilization, Barriers, Facilitators, Sickle Cell Anaemia.

118. Masoud, S.S., Majigo, M., Gangji, R.R., *et al*… (2024). Occurrence of Pantoea agglomerans bloodstream infection in neonatal intensive care unit at tertiary hospital in Tanzania: antibiotic susceptibility profile and clinical outcome. *Bulletin of the National Research Centre*. Vol. 48(1).

ABSTRACT

Background: Pantoea agglomerans (P. agglomerans) is an environmental gram-negative bacterium that rarely infects humans. P. agglomerans infections have never been reported in Tanzania. We investigated the occurrence of P. agglomerans bloodstream infections among neonates in the Intensive Care Unit (NICU) and their

subsequent clinical outcome that occurred in 2019. **Methodology:** Blood samples were collected from neonates with sepsis. A total of 19 P. agglomerans were isolated from 17 infected neonates; two of the neonates had P. agglomerans isolated twice. A total of 14 patient files were retrieved from medical records. **Results:** The mean age of the infected neonates were 3.75 ± 7.95 days. Isolated P. agglomerans showed high sensitivity to the antibiotics particularly chloramphenicol (94.7%), piperacillin-tazobactam (94.7%) and meropenem (94.7%). The mortality rate was 71.4% with 35.7% of infected neonates dying before Antibiotic Susceptibility Test results for appropriate management. The Infection Prevention and Control (IPC) team shut the NICU for thorough decontamination which helped to stop the P. agglomerans occurrence. **Conclusions:** P. agglomerans occurrence at the NICU was an uncommon aetiology pathogen for neonatal sepsis associated with high rates of mortality despite high sensitivity to multiple antibiotics. This calls for the strengthening of infection control measures and introduction of surveillance for environmental pathogens capable of causing human infections.

119. Masoud, S.S., Majigo, M., Gangji, R.R., Nyawale, H., *et al*… (2024). Occurrence of Pantoea agglomerans bloodstream infection in neonatal intensive care unit at tertiary hospital in Tanzania: antibiotic susceptibility profile and clinical outcome. *Bulletin of the National Research Centre*. Vol. 48(1).

ABSTRACT

Background: Pantoea agglomerans (P. agglomerans) is an environmental gram-negative bacterium that rarely infects humans. P. agglomerans infections have never been reported in Tanzania. We investigated the occurrence of P. agglomerans bloodstream infections among neonates in the Intensive Care Unit (NICU) and their subsequent clinical outcomes in 2019. **Methodology:** Blood samples were collected from neonates with sepsis. A total of 19 P. agglomerans were isolated from 17 infected

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120. **Masoud, S.S., Majigo, M., Silago, V., *et al*… (2024). Utility of dipstick urinalysis in the diagnosis of urinary tract infections among outpatients in Mwanza and Dar es Salaam regions in Tanzania. *Bulletin of the National Research Centre*. Vol. 48(1).**

ABSTRACT

Background: Globally, urinary tract infections (UTIs) are the leading cause of hospital visits, especially among women. In many developing countries, especially in lower health facilities, the dipstick urinalysis is the most commonly requested test, as urine culture is not routinely performed. The dipstick test can potentially reduce the number of patients who could be treated with empirical antibiotics and reduce the burden of antibiotic resistance. The current study determined the utility of dipstick urinalysis in diagnosing UTIs using urine culture as a gold standard method. **Methods:** A cross-sectional study was conducted between July and November 2021. The study

involved 1327 outpatients attending lower health centres in Mwanza (n = 678) and Dar es Salaam (n = 649) regions. The samples were subjected to dipstick urinalysis (nitrite and leucocytes) and quantitative bacterial culture. **Results:** Of all 1326 patient samples, 808(60.9%) and 48(3.6%) were positive for urinary leucocyte and nitrite, respectively, while significant urine culture was found in 364(27.4%). leucocyte test correctly diagnosed UTI in 283 (77.75%) and nitrite test in 36 (9.89%). The leucocytes and nitrites, in combination, exhibited a sensitivity of 79.40% and NPV of 85.24% but a lower specificity of 44.96% and a lower PPV of 35.29%. Urinary leucocyte test had a higher discrimination ability to detect urinary tract infection than urinary nitrite test (AUC = 0.073, 95% CI 0.043–0.103, $p < 0.001$); likewise, combined results of urinary nitrite and leucocytes tests had higher discrimination ability to detect UTI than nitrite only (AUC = − 0.079, 95% CI − 0.107–0.050, $p < 0.001$). **Conclusions:** In settings where culture is available, dipstick urinalysis can be a helpful screening method for reducing unnecessary urine cultures and related expenses because of its higher negative predictive value. In most low-resource settings where patients' diagnosis solely depends on clinical diagnosis and culture is not easily available, urine dipstick can decrease the risk of overuse of antibiotics. However, the combined (leucocytes and nitrites) dipstick urinalysis has a rather low positive predictive value, with approximately one-third of cases giving positive test results being truly UTI, subjecting over 65% of cases to unnecessary antibiotic treatment.

121. Masoud, S.S., Majigo, M., Silago, V., Kunambi, P., *et al*… (2024). Utility of dipstick urinalysis in the diagnosis of urinary tract infections among outpatients in Mwanza and Dar es Salaam regions in Tanzania. *Bulletin of the National Research Centre*. Vol.48(1).

Doi: 10.1186/s42269-023-01159-x.

ABSTRACT

Background: Globally, urinary tract infections (UTIs) are the leading cause of hospital visits, especially among women. In many developing countries, especially in lower health facilities, the dipstick urinalysis is the most commonly requested test, as urine culture is not routinely performed. The dipstick test can potentially reduce the number of patients who could be treated with empirical antibiotics and reduce the burden of antibiotic resistance. The current study determined the utility of dipstick urinalysis in diagnosing UTIs using urine culture as a gold standard method. Methods: A cross-sectional study was conducted between July and November 2021. The study involved 1327 outpatients attending lower health centres in Mwanza (n = 678) and Dar es Salaam (n = 649) regions. The samples were subjected to dipstick urinalysis (nitrite and leucocytes) and quantitative bacterial culture. **Results:** Of all 1326 patient samples, 808(60.9%) and 48(3.6%) were positive for urinary leucocyte and nitrite, respectively, while significant urine culture was found in 364(27.4%). leucocyte test correctly diagnosed UTI in 283 (77.75%) and nitrite test in 36 (9.89%). The leucocytes and nitrites, in combination, exhibited a sensitivity of 79.40% and NPV of 85.24% but a lower specificity of 44.96% and a lower PPV of 35.29%. Urinary leucocyte test had a higher discrimination ability to detect urinary tract infection than urinary nitrite test (AUC = 0.073, 95% CI 0.043–0.103, $p < 0.001$); likewise, combined results of urinary nitrite and leucocytes tests had higher discrimination ability to detect UTI than nitrite only (AUC = − 0.079, 95% CI − 0.107–0.050, $p < 0.001$). **Conclusions:** In settings where culture is available, dipstick urinalysis can be a helpful screening method for reducing unnecessary urine cultures and related expenses because of its higher negative predictive value. In most low-resource settings where patients' diagnosis solely depends on clinical diagnosis and culture is not easily available, urine dipstick can decrease the risk of overuse of antibiotics. However, the combined (leucocytes and nitrites) dipstick urinalysis has a rather low positive predictive value, with approximately one-third of cases giving positive test results being truly UTI, subjecting over 65% of cases to unnecessary antibiotic treatment.

122. Massawe, E. R., Somboi, H.E., Muganyizi, A., *et al*… (2024). Paranasal sinuses in patients with chronic rhinosinusitis, South Sudan Medical Journal. Vol. 17 (1).

Doi: 10.4314/ssmj.v17i1.4.

: Chronic rhinosinusitis is inflammation of the nasal cavity and paranasal sinuses that lasts for at least twelve weeks. Paranasal sinus variations account for various pathologies, including chronic rhinosinusitis. This study assessed the anatomical variations of paranasal sinuses among patients with chronic rhinosinusitis attending otorhinolaryngology services in a tertiary hospital in Tanzania. **Method:** This was a descriptive prospective cross-sectional study of 120 patients aged 15 years and above who fulfilled the Rhinosinusitis Task Force criteria. A structured checklist was used to collect socio-demographic characteristics and clinical presentations. Cone-beam computed tomography scan and the Lund-Mackay scoring system were used. Data analysis was done using SPSS version 26, and p-values <0.05 were considered statistically significant. **Results:** A total of 120 patients were enrolled with a median age of 37 (IQR 27-52) years, with 40% aged 30-49 years. There were 65 (54.2%) males, and 55 (45.8%) females. Maxillary sinuses were affected in 85.8% of all patients with chronic rhinosinusitis. The overall proportion of anatomical variation was 53.3%, with concha bullosa, deviated nasal septum, Onodi cells, and septal spur being the most common, accounting for 40.6%, 25.0%, 23.4%, and 20.3%, respectively. Twenty-four patients with concha bullosa had chronic maxillary rhinosinusitis, with 14 (58.3%) having ipsilateral rhinosinusitis. **Conclusion:** Half of the patients had one or more paranasal sinus anatomical variations. The most common variants were concha bullosa followed by deviated nasal septum. Onodi cells and septal spurs were rarely identified. Most patients with concha bullosa had ipsilateral maxillary sinusitis.

Keywords: anatomical variations. Paranasal sinuses, rhinosinusitis, laterality, Tanzania

123. Matiku, S.B., Murenzi, G., Shaban, I., *et al*… (2024). Mucormycosis: a rare forgotten but fatal disease: A case report and literature review. *Journal of Rare Diseases.* Vol.3(1).

Doi:10.1007/s44162-024-00033-2.

ABSTRACT

Mucormycosis is a perilous fungal infection that primarily affects individuals with compromised immune systems. The escalating incidence of conditions such as diabetes, cancer and the use of immunosuppressive drugs renders more individuals susceptible to contracting this disease. This report delves into the case of a 45-year-old woman from Tanzania with diabetes who succumbed to rhino-cerebral mucormycosis. Despite aggressive treatment, which often involves disfiguring surgical debridement and administration of antifungal drugs, the mortality rate remains high. Additionally, we present a comprehensive literature review of the various clinical aspects of Mucormycosis, an uncommon yet fatal condition.

124. Matiku, S.B., Murenzi, G., Shaban, I., *et al*… (2024). Mucormycosis: a rare forgotten but fatal disease—a case report and literature review. *Journal of Rare Diseases.* Vol. 3(1).

Doi: 10.1007/s44162-024-00033-2#Sec1.

ABSTRACT

Background: Mucor mycosis is a perilous fungal infection that primarily affects individuals with compromised immune systems. The escalating incidence of conditions

such as diabetes, cancer and the use of immunosuppressive drugs renders more individuals susceptible to contracting this disease. This report delves into the case of a 45-year-old woman from Tanzania with diabetes who succumbed to rhino-cerebral mucormycosis. Despite aggressive treatment, which often involves disfiguring surgical debridement and administration of antifungal drugs, the mortality rate remains high. Additionally, we present a comprehensive literature review of the various clinical aspects of Mucormycosis, an uncommon yet fatal condition.

125. **Mbai, M.M., Mduma, E., Thuo, S., *et al*… (2024). A comparison of clinical profile and treatment outcome of Hodgkin's Lymphoma in Tanzania according to HIV status during the HAART era. *BMC cancer*. Vol. 24(1).**

Doi: 10.1186/s12885-024-12569-z.

ABSTRACT

Background: The incidence of Hodgkin's lymphoma (HL) in people living with HIV (PLWHA) and on HAART is approximately 20–30 times higher than in HIV-negative individuals. Most patients with HIV-HL present at an advanced stage (III-IV) have 'B' symptoms and extranodal involvement. The natural history and risk stratification of HIV-HL has undergone a significant change as a result of HAART's rollout. This study investigated the differences in clinic pathological and survival patterns of HL among individuals with and without HIV disease in Tanzania during the HAART era. **Methodology:** This hospital-based retrospective cohort study was conducted at the ORCI, Dar-Es-Salaam, Tanzania. Chi-square and Fisher's exact tests were used to compare proportions. The student t-test was used to compare means. To determine factors that predict survival, we used the log-rank test to analyze the variables in univariate analysis. A Cox regression model was used to analyze the significant factors from univariate analysis in multivariate analysis. **Results:** Eighty-three patients with

HL were recruited, and the prevalence of HIV-positive status was 27.7%. Most of the patients with HIV-HL had an age of > 30 years (73.9%), while most of the non-HIV-HL patients had an age of ≤ 30 years (63.3%) (P = 0.02). The 2-year OS rate for HIV-HL was 34%, while that for non-HIV-HL was 67%. Among the HIV-HL patients, predictors of a poorer outcome were a CD4 count ≤ 200 cells/mm3 (P = 0.05), lack of HAART use (P = 0.00), and the use of HAART for ≤ 10 months (P = 0.00). **Conclusion:** The prevalence of HIV-HL was 27.7% among HL patients. HIV positivity is still a poor prognostic factor in our setting, especially for patients not on HAART, on HAART for ≤ 10 months, or with a low CD4 count below 200 cells/mm3. Patients with HIV-HL were older and had higher LDH levels, whereas patients with non-HIV-HL were younger and had low LDH levels.

126. Mbegeze, M.B., Stephano, F., Ramadhani, S.O. (2024). Antidiabetic and antihyperlipidemic effects of flavonoids in streptozotocin-nicotinamide induced diabetic Wistar rats, *Journal of Biologically Active Products from Nature* Vol. 14(3).

Doi: 10.1080/22311866.2024.2371820.

ABSTRACT

Diabetes mellitus (DM) ranks as the fourth cause of death among non-communicable diseases worldwide. Mortalities due to diabetes are associated with high cost, undesirable side effects, and less effectiveness of antidiabetic agents currently in clinical use. Therefore, this study investigated the antidiabetic and antihyperlipidemic potential of two flavonoids, 5,6,7,8-tetramethoxyflavone (1) and 5,6,7,4'-tetramethoxyflavone (2) in streptozotocin-nicotinamide induced diabetic Wistar rats. Oral acute toxicity test was conducted in male Wistar rats using the up and down method by following OECD Guideline 423. The doses, 5 and 50 mg/kg b.w were used

for each flavonoid. No clinical signs of toxicity were observed for compound 1 at tested doses while compound 2 resulted in itching, reduced weight, and increased levels of creatinine. The LD_{50} values were established to be ≥ 50 mg/kg b.w for both compounds. In the evaluation of antidiabetic and antihyperlipidemic efficacy, diabetic Wistar rats were administered with 2.5, 5.0 and 7.5 mg/kg b.w for each compound. Compound 1 lowered the level of fasting blood glucose (FBG) significantly ($p < 0.05$) while compound 2 lowered FBG with no significant difference ($p > 0.05$) compared to the negative control. Both compounds did not avert weight loss but reduced the rate of weight loss in a dose-dependent manner. The levels of HDL-C increased with no significant difference ($p > 0.05$), while the levels of TC, TG, and LDL-C were reduced significantly ($p < 0.05$) for compound 1 compared to the negative control. Compound 2 reduced the levels of LDL-C, and increased the levels of TG significantly ($p < 0.05$) compared to the negative control. However, compound 2 resulted in inflation of the urinary bladder, and swelling of stomach, intestines, and testes of diabetic rats. Therefore, this study identifies and recommends 5, 6, 7,8-tetramethoxyflavone (1) as a promising antidiabetic and antihyperlipidemic agent.

127. **Mbowella, A., Mchembe, M., Massawe, G., e*t al*… (2024). Postoperative Complications and Factors Associated with Surgical Site Infection at Muhimbili National Hospital, Dar es Salaam, Tanzania: A cross-Sectional study. *The East African Health Research Journal*. Vol.8(2).**

Doi: 10.24248/eahrj.

ABSTRACT

Background: Postoperative complications are a leading cause of morbidity and mortality to surgical patients. Different complications are encountered in clinical practice, however surgical site infection (SSI) appears to be the most common. To

date, limited published information is known pertaining to the patterns of postoperative complications and factors associated with SSI among patients operated on in other hospitals in Tanzania and referred to Muhimbili national hospital for further management. Therefore, the purpose of this study was to identify patterns of postoperative complications and factors associated with SSI among the study participants. **Methods:** This was a hospital based cross-sectional study conducted at Muhimbili national hospital from August 2022 to January 2023, which included 181 patients. Obtained data was analysed using frequency tables, Pearson Chi-squared test and binary logistic regression model, at a level of significance of <0.05.**Results:** One hundred eighty one (181) patients were included in this study, of whom 113(62.4%) were females; median age was 39 years. Cigarette smokers and alcohol consumers were 42(23.2%) and 90(49.7%) respectively. Diabetic patients were 8(4.4%), 35(19.3%) were HIV positive and 52(28.7%) had hypertension. Patients whose diagnosis was related to general surgery accounted for 50.2%, whereas 30.9% were obstetric cases. Patients who had undergone Caesarean section were 45(24.9%), whereas 20(11%) patients had undergone total abdominal hysterectomy. Bowel resection and primary anatomises included 16(8.8%) patients and perforated peptic ulcer repair 8(4.4%) patients. Patients with infected peritoneal collection were 34(18.8%), postpartum haemorrhage 18(9.9%) and bowel perforation 10(5.5%). Patients who had undergone relaparotomy as part of treatment were 70(38.7%), whereas 30(16.6%) patients with SSIs were treated by serial wound dressing and 26(14.4%) patients were admitted and nursed in intensive care unit. None of the factors was found to have a statistically significant association with SSI. **Conclusions:** There is a large proportion of patients suffering from postoperative complications after gastroenterology and obstetric surgeries; and of all complications encountered in this study; SSI was the most common contributing 52%, followed by gastrointestinal complications at 31%. Despite the fact that multiple factors were associated with SSI, none of them was found to be statistically significant.

128. **Mbwambo, O.J., Anthony, J., Mremi, A., *et al*… (2024). A case report on rare co-occurrence of invasive ovarian mucinous adenocarcinoma, unilateral renal agenesis, and bicornuate uterus: is it a new triad? *BMC Womens Health.* Vol. 24(1).**

Doi: 10.1186/s12905-024-03130-y.

ABSTRACT

Background: Concomitant invasive ovarian mucinous adenocarcinoma, unilateral renal agenesis, and bicornuate uterus are a rare combination. Unilateral renal agenesis has been associated with genital anomalies, such as unicornuate and bicornuate uterus. Furthermore, a wealth of studies has reported the association between unicornuate uterus and ovarian anomalies, such as the absence of an ovary or ectopic ovaries, but rarely has there been a combination of the three to the best of our knowledge. The present case report is the first case presentation with a combination of the three syndromes: ovarian mucinous tumor, unilateral renal agenesis, and bicornuate uterus. Case presentation we report the case of a 17-year-old who presented with abdominal distension. On examination, a CT scan revealed a large multicystic abdominal mass on the right side, with an absence of the right kidney while the left kidney was normal in size, appearance, and position. Intraoperatively, massive blood-stained ascitic fluid was evacuated. Additionally, a large whitish polycystic intra-abdominal mass with mucus-like materials and solid areas was attached to the midpoint of the colon and the right ovary, with visible metastasis to the omentum. The uterus was bicornuate. The mass and omentum were taken for histopathology and a diagnosis of invasive ovarian mucinous cystadenocarcinoma with metastasis to the colon and omentum was made after a pathological report. **Conclusions:** The presence of these conditions in the same individual could potentially complicate medical management and fertility considerations. Thus, a need for a multidisciplinary medical team, including

gynecologists, urologists, and oncologists, to address their unique needs and provide appropriate treatment and guidance. Further research and case studies are needed to better understand the possible association and implications of these rare co-occurring conditions.

129. Mdoe, M., Kibusi, S., Mselle, L. (2024). An integrative review of home-care recommendations for women after caesarean section. ***Nursing Open.*** **Vol.11(3).**

Doi:10.1002/nop2.2145.

ABSTRACT

Aim: To describe home-based care and practices recommended for mothers after caesarean section (CS), existing in the literature. Design: Systematic review. **Methods:** This integrative literature review was conducted by using Google Scholar, PubMed and Hinari databases from its inception to June 2021. The search included research articles, protocols and guidelines that describe home care practice after CS and assessed for their quality. Synthesis of recommendations from the included literature was classified based on the type of study design, and the review was guided by methodology registered in Prospero (ID CRD42021276905). **Results:** A total of 681 literatures were found, and 12 met the criteria. Recommended home care components were divided into four major categories; wound care practice (wound cleaning, drying and bandage change); nutrition (high-protein diet, vitamin C, fibre and balanced diet); exercise (pelvic floor muscle, walking and breathing exercise) and hygiene (bathing and wearing clean clothes). There was limited literature addressing the components of perineal care and home environment. Varying recommendations were found regarding wound cleaning and dressing in the studies done in low- and high-income countries.

130. **Metta, E. Unkels, R. Mselle, L.T. *et al*… (2024). exploring women's experiences of care during hospital childbirth in rural Tanzania: A qualitative study. *BMC Pregnancy and Childbirth* Vol. *24*(290).**

Doi: 10.1186/s12884-024-06396-0.

ABSTRACT

Background: Women's childbirth experiences provide a unique understanding of care received in health facilities from their voices as they describe their needs, what they consider good and what should be changed. Quality Improvement interventions in healthcare are often designed without inputs from women as end-users, leading to a lack of consideration for their needs and expectations. Recently, quality improvement interventions that incorporate women's childbirth experiences are thought to result in healthcare services that are more responsive and grounded in the end-user's needs. **Aim:** This study aimed to explore women's childbirth experiences to inform a co-designed quality improvement intervention in Southern Tanzania.**Methods:** This exploratory qualitative study used semi-structured interviews with women after childbirth ($n = 25$) in two hospitals in Southern Tanzania. Reflexive thematic analysis was applied using the World Health Organization's Quality of Care framework on experiences of care domains. **Results:** Three themes emerged from the data: (1) Women's experiences of communication with providers varied (2) Respect and dignity during intrapartum care is not guaranteed; (3) Women had varying experience of support during labor. Verbal mistreatment and threatening language for adverse birthing outcomes were common. Women appreciated physical or emotional support through human interaction. Some women would have wished for more support, but most accepted the current practices as they were. **Conclusion**: The experiences of care described by women during childbirth varied from one woman to the other. Expectations towards empathic care seemed low, and the little interaction women had

during labor and birth was therefore often appreciated and mistreatment normalized. Potential co-designed interventions should include strategies to (i) empower women to voice their needs during childbirth and (ii) support healthcare providers to have competencies to be more responsive to women's needs.

131. **Mhando, F., Mushy, S.E., Nyankomo, M., *et al*… (2024). Clients' and providers' perspectives in informing a digital health intervention to improve linkage to care after Index HIV self-testing in Hai and Moshi Districts, Tanzania. *BMC Health Serv Res.* Vol.24 (1084).**

Doi: 10.1186/s12913-024-11466-2.

ABSTRACT

Background: Digital health interventions have the potential to improve linkage to care after HIV self-testing (HIVST). This study aimed to understand clients' and providers' perceptions of benefits, and barriers of a digital health intervention designed to improve linkage to care after HIV self-testing in Tanzania. **Methods:** This exploratory qualitative research study was conducted in Hai and Moshi, districts in Kilimanjaro region, Tanzania. Four health facilities were selected based on their involvement in an HIVST pilot program implemented by Elizabeth Glassier Pediatric AIDS Foundation (EGPAF) Tanzania through the USAID funded program. The study included female index clients and their partners, and healthcare providers at the healthcare facilities. We used a semi-structured interview guide with open-ended questions for data collection. Data collection was conducted from 16th January 2023 to 3rd February 2023. Thematic analysis of the qualitative data was conducted, guided by the Health Belief Model (HBM), and results were developed in collaboration with the community partners. **Results:** A total of 42 participants were included in the study, comprising 9 male clients, 17 female index clients, and 16 health care workers (HCWs) (4 male and

12 female) who were involved in delivering HIVST services. The study's findings revealed mixed feelings about the use of a digital health intervention. Majority of participants perceived digital health as a valuable intervention for enhancing linkage to care, improved health outcomes, improved communication with healthcare workers, and increased privacy. Therefore, they supported scale-up of a digital health intervention. Participants also expressed that the potential benefits of a digital health intervention include the convenience of accessing healthcare services from the comfort of their homes or any location However, a few participants expressed concerns about potential risks associated with sending health-related text messages. They feared that recipients might not be in a safe space, leading to stigma and avoidance of engagement. A few female participants expressed concerns about confidentiality breaches, particularly regarding shared phones with family or friends. Fear of being judged or misunderstood by others could deter them from reading or acting upon these messages. Most participants recommended tailored strategies that prioritize confidentiality and trust. Recognizing these psychological aspects is vital for customizing digital health interventions to effectively address participants' concerns. **Conclusions**: Digital health interventions may improve the linkage of HIV self-testers to care. Recommendations include personalized and culturally relevant communication and technical accessibility to make interventions effective and inclusive. This study provides valuable insights for designing patient-centered interventions for HIV care and treatment.

132. **Miah, M.A., Chandna, J., Gurung, R., *et al*… (2024). Every Newborn-Reach up Early Education Intervention for All Children (EN-REACH)-a parent group intervention for school readiness in Bangladesh, Nepal, and Tanzania: study protocol for a cluster randomized controlled trial. *Trials*. Vol.25(556).**

ABSTRACT

Background: Vulnerable children, including those with neuro-developmental delays and disabilities, often face barriers in accessing early primary education, thus hindering progress toward Sustainable Development Goal 4.2. Evidence-based interventions are essential to enhancing inclusivity and establishing sustainable implementation strategies to address this challenge. This study, Every Newborn—Reach up Early Education Intervention for All Children (EN-REACH), builds on the previous Every Newborn- Simplified Measurement Integrating Longitudinal Neurodevelopmental and Growth (EN-SMILING) observational cohort study. This paper provides the protocol for a cluster randomized controlled trial (cRCT) to evaluate the effectiveness of a parenting group intervention program for enhancing school readiness in Bangladesh, Nepal, and Tanzania, and an embedded process evaluation to inform scalability and feasibility. **Method:** EN-REACH is a cRCT with at least 150 clusters to evaluate the impact of a parent training program led by trained parent-teacher facilitator pairs, focusing on children aged 4 ~ 6 years preparing for preschool. Approximately 500 participants from the EN-SMILING cohort at each site have been identified. A geographic information system will define ~ 50 clusters in each of the three countries, each with approximately ten parent–child dyads. Half the clusters will be randomly assigned to intervention and control groups. The primary outcome is "school readiness", assessed using the Measuring Early Learning Quality and Outcomes tool. Secondary outcomes include Intelligence Quotient, child functioning, growth, visual, and hearing assessments. Data will be collected at baseline, and post-intervention data following implementation of the parent group intervention sessions over approximately 5 months. Quantitative data on coverage and quality care, combined with qualitative insights from children, caregivers, facilitators, and stakeholders' perspectives, will be used to conduct a process evaluation applying the Reach, Effectiveness, Adoption, Implementation, and Maintenance (RE-AIM) framework. **Discussion:** This protocol details a trial focused on enhancing school readiness and cognitive abilities in young children, inclusive of those with disabilities, aiming to bridge gap from home to early

primary education. EN-REACH aims to provide insights into the effectiveness and acceptability of a co-designed disability-inclusive school readiness program in three countries, potentially impacting national and global policies for all children, including those with disabilities**.**

133. Michael, F., Mirambo, M.M., Misinzo, G., *et al*... (2024). Trends of measles in Tanzania: A 5-year review of case-based surveillance data, 2018-2022. *International Journal of Infectious Diseases.* Vol. 139 (1).

Doi: 10.1016/j.ijid.2023.12.007.

ABSTRACT

Objectives: Tanzania observed a gradual increase in the number of measles cases since 2019 with a large outbreak recorded during 2022. This study describes the trend of measles in Tanzania over a 5-year period from 2018-2022. **Methods:** This was a descriptive study conducted using routine measles case-based surveillance system including 195 councils of the United Republic of Tanzania. **Results:** Between 2018 and 2022 there were 12,253 measles cases reported. Out of 10,691 (87.25%) samples tested by enzyme-linked immunosorbent assay, 903 (8.4%) were measles immunoglobulin M positive. The highest number of laboratory-confirmed measles cases was in 2022 (64.8%), followed by 2020 (13.8%), and 2019 (13.5%). Out of 1279 unvaccinated cases, 213 (16.7%) were laboratory-confirmed measles cases compared to 77/723 (10.6%) who were partially vaccinated and 71/1121 (6.3%) who were fully vaccinated ($P < 0.001$). Children aged between 1-4 years constituted the most confirmed measles cases after laboratory testing, followed by those aged 5-9 years. There was a notable increase in the number of laboratory-confirmed measles cases in children <1 year and 10-14 years during 2022 compared to previous years. The vaccination coverage of the first dose of measles-containing vaccine (MCV1) was

maintained >90% since 2013 while MCV2 increased gradually reaching 88% in 2022. **Conclusions:** Accumulation of susceptible children to measles due to suboptimal measles vaccination coverage over the years has resulted in an increase in the number of laboratory-confirmed measles cases in Tanzania with more cases recorded during the COVID-19 pandemic. Strengthening surveillance, routine immunization, and targeted strategies are key to achieving the immunity levels required to interrupt measles outbreaks.

134. Mikomangwa, W.P., Moen, K., Mmbaga, E.J., *et al*… (2024) HIV pre-exposure prophylaxis use during periods of unprotected sex among female sex workers in Tanga city, Tanzania: a control arm analysis of the pragmatic quasi-experimental trial. *Frontiers in Public Health,* Vol. 12.

Doi: 10.3389/fpubh.2024.1405765.

ABSTRACT

Background: Pre-exposure prophylaxis (PrEP) prevention-effective adherence is of critical importance but challenging particularly among key populations where periods of high HIV risk are frequent. We assessed the use of PrEP with reference to periods of unprotected sex among female sex workers in the city of Tanga.**Methods:** This was part of the pragmatic quasi-experimental trial for HIV PrEP rollout in Tanzania involving a control cohort of 313 female sex workers aged ≥18 years recruited by respondent-driven sampling and followed for 12 months. PrEP use and periods of condomless or unprotected sex were assessed at the 6th and 12th month of follow-up. Prevention-effective adherence was defined as PrEP use of ≥2 pills/week and ≥6 pills/week for anal and vaginal condomless sex. Multivariable modified Poisson regression was conducted to determine factors influencing PrEP use (≥2 pills/week). **Results:** Overall, 59.2 and 45.9% of participants had unprotected anal and vaginal sex

with a client, respectively. The prevention-effective adherence for anal sex ranged from 8.0% (months 6) to 10.0% (months 12) while that of vaginal sex was from 10.1% (month 6) to 3.8% (month 12). Participants who lived with friends were 25.5 times more likely to use ≥2 PrEP doses per week than those who lived alone (aPR = 25.5; 95%CI: 2.55–255.42, $p = 0.006$). Compared to self-reporting poor health status, self-reporting good health status significantly increased the use of ≥2 PrEP doses per week (aPR = 17.4; 95%CI: 3.01–101.02, $p = 0.001$). Refusing condomless sex with a steady partner increased the likelihood of using ≥2 PrEP doses per week than accepting condomless sex with a steady partner (aPR = 11.2; 95%CI: 1.55–80.48, $p = 0.017$). The prevalence of using ≥2 PrEP doses per week was less among participants accepting condomless sex at high pay than those who refused (aPR = 0.1; 95%CI: 0.03–0.26, $p = 0.000$). **Conclusion:** Use of PrEP during periods of unprotected sex was rare among female sex workers. Living with friends, self-reporting good health status, and refusing condomless sex with steady partners were associated with increased use of ≥2 PrEP doses per week. However, accepting condomless sex for increased payment was associated with reduced use of ≥2 PrEP doses per week. This calls for an in-depth study to understand the perspectives and circumstances shaping poor adherence during periods of unprotected sex among female sex workers.

135. Minja, I.K., Wilson, E.M., Machibya, F.M., *et al*… (2024). Dental caries in children with sickle cell disease and its association with the use of hydroxyurea and penicillin prophylaxis in Dar es Salaam. *Pediatric Health Med Ther*. Vol.15(2024).

Doi:10.2147/PHMT.S443139.

ABSTRACT

Purpose: This comparative study sets out to report dental caries status among individuals with Sickle Cell Disease (HbSS) against those with sickle cell trait (HbSA) and those without the disease (HbAA) as controls. The study further assessed the impact of penicillin chemoprophylaxis and hydroxyurea use on dental caries among Sickle Cell Disease participants. **Methods:** This was a comparative cross-sectional study in which 93 children aged 30 to 60 months were recruited. There were 60 participating children who had SCD (HbSS), 17 with SCD trait (HbAS) and 16 were without SCD or SC trait (HbAA). A questionnaire was used to record sociodemographic details including mean age in months and sex and on haemoglobin genotype for all the participants. Specifically, for the participants with HbSS, information on their whether they are taking hydroxyurea (HU), and penicillin chemoprophylaxis was recorded. To assess the prevalence of dental caries, clinical examination of all primary maxillary and mandibular teeth to determine the presence or absence of dental caries lesions was also recorded. **Results:** A total of 1197 teeth from 93 children were examined, whereby, 45 (2.4%) of them had dental caries. The participating children with HbAA genotype (6.6%, N=21) had more dental caries than their HbSS counterparts (2.0%, N=24), while none of the participants with HbAS exhibited dental caries. Among the participants with HbSS, males and those who use HU were 3.79 and 3.07 times more likely to have dental caries than their counterparts, female and non-users of HU, respectively. **Conclusion:** Dental caries was observed to be low among participants with HbSS when compared to those with HbAA. More research utilizing more robust methodologies is recommended.

136. **Minja, M., Mbilinyi, T., Mkinga, B., e*t al*… (2024). Prevalence, treatment, and factors associated with Cryptococci meningitis post introduction of integrase inhibitors antiretroviral based regimens among People Living with HIV in Tanzania. *Plos one*. Vol.19(2).**

Doi: 10.1371/journal.pone.0294940.

ABSTRACT

Objective: This study aimed to assess the prevalence of Cryptococcal Meningitis (CM), treatment practice, and the associated factors post-introduction of Tenofovir Lamivudine and Dolutegravir (TLD) regimen among People Living with HIV (PLHIV) in Tanzania. **Methods:** This was an analytical cross-sectional study, and the data was collected retrospectively in three public regional referral hospitals (RRHs) in Dar es Salaam, Tanzania. A total of 405 files of the PLHIV admitted in the medical wards on the TLD regimen from January 2019 to December 2022 were reviewed. The collected information includes the patient's demographic characteristics, Cryptococcal status, and CD4 level at the time of CM diagnosis, status of using ART, CM treatment approach, and outcome. Data was analyzed using SPSS software version 23. **Results:** Out of 405 patients, the majority 267(65.9%) were female, 224(55.3%) were aged between 36–55 years, and 293(72.3%) were married. ART defaulters were found to be 37(9.1%). The prevalence of CM was found to be 48(11.9%), out of which 42(87.5%) received fluconazole alone. ART defaulter and marital status significantly (p-value < 0.05) were associated with those who tested CM positive. **Conclusion:** The study found the prevalence of CM among PLHIV to be significantly high and the majority were treated with fluconazole alone. ART defaulters and marital status were significantly associated with one being CM positive. Responsible authorities and stakeholders should enforce guideline adherence and PLHIV should be encouraged on medication adherence.

137. Mkoka, D.A., Andwilile, R. (2024). Nurses' perceptions on barriers for implementing pressure ulcers preventive measures among critically ill patients at a tertiary teaching Hospital, Tanzania. Vol. 20(2024).

Doi: 10.1016/j.ijans.2024.100676.

ABSTRACT

Objectives: To explore nurse's perceptions on barriers for Implementing Pressure Ulcers Preventive Measures among critically ill patients. Research **Design:** An exploratory qualitative study design was employed. In-depth interviews were conducted with 15 nurses to explore their perceptions on barriers for preventing pressure ulcers among critically ill patient. Qualitative thematic analysis approach was used to analyze data. Study settings: Medical high dependent unit, surgical high dependent unit, medical Intensive Care unit and surgical intensive care units at tertiary teaching hospital. **Findings:** Seven themes emerged that describes nurses' perceptions on barriers for implementing pressure ulcers preventive measures among patients with critical illness. The themes are: Restrictions from therapeutic interventions and severity of patient condition; Shortage of staff and equipment for pressure ulcer prevention; Unbalanced shift staffing and competing need for patient care; health care providers' incompetence and carelessness; Lack of guidelines on implementing best practice for pressure ulcer prevention; Lack of accountability measures for negligence; and Minimal management's commitment for PUs prevention. **Conclusion:** This study reveals contextual based barriers for effective prevention of pressure ulcers among critically ill patients. Nurses should be continuously empowered with competence for pressure ulcers prevention. This should go along with staffing and equipping critical care settings for pressure ulcers prevention. Managerial oversight is required for effective implementation of pressure ulcer preventive measures. This should include development of guidelines and policies, establishing accountability measures for negligence, malpractice as well as initiating clinical audit for reflective learning purpose.

Keywords: Pressure ulcerPressure ulcer preventionCritical careCritically ill patient

138. **Mlugu, E., Mhagama, J., Matiko, D., *et al*… (2024). A Comprehensive Assessment of Quality of Antimalarial Medicines in Mainland Tanzania: Insights from Five Years of Postmarket Surveillance. *Am J Trop Med Hyg*.Vol. 111(6).**

Doi: 10.4269/ajtmh.24-0145.

ABSTRACT

Sustainable access to high-quality antimalarial medicines is pivotal to achieving universal and effective malaria control. Poor-quality antimalarial medicines are prevalent in sub-Saharan Africa, impeding malaria control initiatives and claiming the lives of many children. Regular monitoring of the quality of antimalarial medicines is crucial to ensure the quality of service to the community. A cross-sectional study using a postmarket surveillance (PMS) approach was conducted from 2019 to 2023. Samples were collected from the port of entry, local manufacturers, and various distribution outlets in 15 regions of mainland Tanzania. The samples were subjected to tier 1 evaluation, comprising a product information review (PIR) and identification using the Global Pharma Health Fund-Minilab® techniques. Samples that failed the identification tests and 10% of the samples from distribution outlets that passed the tests were subjected to confirmatory testing (tier 2), which included assays, related substances, dissolution, and sterility per the pharmacopeia monographs. During five annual PMSs, 2,032 antimalarial samples were collected and subjected to quality tests. All samples complied with the standard specifications for identity, dissolution, related substances, sterility, physical evaluation, disintegration, and assay. A total of 292 (55.5%) tested samples failed the PIR evaluation, with incomplete package information in leaflets contributing to 64.7% of all deviations. Antimalarial medicines circulating in the mainland Tanzanian market meet expected quality standards. Continuous monitoring of the quality of antimalarial medicines is recommended.

139. Mlugu, E.M., Dondorp, A.M, Barnes, K.I. (2024). Resistant malaria parasites gaining momentum in Africa. *Lancet Infect Dis*. Vol. 24(11).

Doi: 10.1016/S1473 3099(24)00413-4.

ABSTRACT

In The Lancet Infectious Diseases, Deus S Ishengoma and colleagues1 confirm Tanzania as the fourth African country—alongside Rwanda, Uganda, and Eritrea— to meet the WHO criteria for falciparum malaria with artemisinin partial resistance (ART-R). This finding is undoubtedly part of a much larger issue. ART-R is likely to have already emerged, or will soon emerge, widely across Africa.2 Artemisinins provide the backbone of all first-line treatments for both uncomplicated falciparum malaria, as artemisinin-based combination therapies (ACTs), and severe malaria, as injectable artesunate followed by ACTs. As such, all African countries in which malaria is endemic urgently need to develop and implement a detailed action plan to prevent or react to ART-R.3. ART-R was first reported on the Cambodia–Thailand border and spread rapidly throughout the Greater Mekong Subregion.4 Parasites with ART-R mutations emerged independently in Africa, with the highest burden reported in Uganda, where selection of these resistant parasites occurred at the same rate as previously observed in the Greater Mekong Subregion.5 As part of its response, Tanzania conducted nationwide malaria molecular surveillance in 2021, identifying a high prevalence of a WHO-validated ART-R marker, the Arg561His mutation in the Plasmodium falciparum kelch13 gene, in the northwestern Kagera region,6 where the study by Ishengoma and colleagues1 was conducted. The Kagera region borders Rwanda and Uganda, where the Arg561His mutation is also prevalent.7 This finding underscores the relevance of regional and cross-border collaboration, leveraging the East African Community's Great Lake Malaria Initiative, such that countries can share data and lessons learned and co-design response strategies to ART-R.

140. Mlugu, E.M., Minzi, O.M.S., Johansson M., *et al*… (2024). Pharmacokinetics of piperaquine and its association with intermittent malaria preventive therapy outcomes 4 during pregnancy. *BMC Pharmacol Toxicol*. Vol. 25(38).

Doi: 10.1186/s40360-024 00762-6.

ABSTRACT

Background: Dihydroartemisinin-piperaquine (DHP) recently showed superior effectiveness over sulfadoxine-pyrimethamine for malaria intermittent preventive treatment in pregnancy (IPTp). We investigated day 7 piperaquine pharmacokinetics and its therapeutic efficacy in preventing malaria during pregnancy. **Methods:** Malaria-free (mRDT) pregnant women ($n = 400$) who received monthly IPTp-DHP were enrolled and followed till delivery. Day 7 Plasma piperaquine concentrations were determined after each IPTp dose using UPLC/MS/MS. IPTp outcomes (symptomatic malaria and parasitemia during pregnancy, placental malaria, and maternal malaria at delivery) were monitored. Linear mixed model and Cox regression were used to assess predictors of day 7 piperaquine concentration and treatment outcome, respectively. **Results:** The incidences of symptomatic malaria and parasitemia during pregnancy per 100 person-year at risk were 2 and 33, respectively. The prevalence of histopathologically confirmed placental malaria and maternal malaria at delivery were 3% and 9.8%, respectively. Repeated monthly IPTp-DHP resulted in significantly increased day 7 plasma piperaquine concentration ($p < 0.001$). Following the 1st, 2nd, and 3rd monthly IPTp-DHP doses, the proportions of women with day 7 piperaquine concentration below the therapeutic threshold (< 30 ng/mL) were 6.1%, 4.1% and 3.6%, respectively. Factors such as maternal age, body weight and trimester were not significant predictors of day 7 piperaquine concentration. However, having a low day 7 piperaquine plasma concentration (< 30 ng/mL) was

significantly associated with a higher risk of parasitemia during pregnancy ($p = 0.004$). **Conclusion:** Lower day 7 piperaquine plasma concentration is a risk factor for parasitemia during pregnancy. Single plasma sampling at day 7 can be used to monitor piperaquine effectiveness during IPTp-DHP.

141. Moledina, S.M., Kwiyolecha, E., Isingo, D.*, et al*… (2024). Chronic cough and noisy breathing: An 11-year journey to diagnosis and successful treatment." *Radiology Case Report*s Vol.19 (10) 4493-4496.

ABSTRACT

Foreign body aspiration in an uncommon entity in adults which often leads to delays in diagnosis. Adults with long-standing foreign bodies in the airway can result in various complications including bronchiectasis, atelectasis and lung fibrosis. We describe the case of a primary school teacher who was diagnosed with foreign body aspiration 11 years after the aspiration event. Delays in diagnosis led to her receiving multiple doses of antibiotics including a course of ant tuberculous therapy.

Keywords: Chronic cough Foreign body Bronchoscopy

142. **Molenaar, J., Kikula, A., Kionga, Y., *et al*… (2024). Data for whom? Experiences and perceptions of a perinatal Registry in two hospitals in Mtwara region, Tanzania. *BMJ Glob Health*.Vol.9 (11).**

Doi: 10.1136/bmjgh-2024-016765.

ABSTRACT

Introduction: Digital data systems have the potential to improve data quality and provide individual-level information to understand gaps in the quality of care. This study explored experiences and perceptions of a perinatal eRegistry in two hospitals in

Mtwara region, Tanzania. Drawing from realist evaluation and systems thinking, we go beyond a descriptive account of stakeholders' experiences and provide insight into key structural drivers and underlying social paradigms. **Methods:** We carried out 6 weeks of focused ethnographic observations at the labour wards of the two hospitals and 29 semi-structured qualitative interviews with labour ward staff, as well as with administrative and managerial stakeholders at hospital, district and regional levels. Multi-stage reflexive thematic data analysis was carried out. **Results:** We provide an in-depth account of the day-to-day functioning of the eRegistry in the two hospitals, including both aspects of positive change and key challenges with its integration into routine documentation duties. Experiences with and perceptions of the eRegistry were inextricably linked to broader systemic constraints relating to staffing, workload and infrastructure. A key underlying theme shaping the way people engaged with the eRegistry was the notion of data ownership: the presence or absence of a feeling of being responsible, involved and in control of data. **Conclusion:** Some of the key systemic challenges in recording accurate, timely information about women and their babies are not solved by digital tools. Our findings also underline that when healthcare workers feel that data are not primarily for them, they document only for reporting purposes. The eRegistry increased a sense of data ownership among the nurse-midwives directly involved with data entry, but the potential for promoting and supporting data use feedback loops for improvement in care provision remained largely untapped. Our findings highlight the importance of local relevance and ownership in digitisation of routine health information systems.

143. **Mosha, I., Lukumay, G.G., Iseselo, M.K., *et al*… (2024). Health Care Providers' Knowledge, Attitudes, and Practices on the Management of Depressive Symptoms among People Living with HIV in Dar es Salaam, Tanzania: A Cross-Section Study. *Tanzania Medical Journal.* Vol. 35(1).**

Doi: 10.4314/2re9p356.

ABSTRACT

Introduction: Mental disorders such as depression are prevalent among People Living with HIV, and therefore health care providers need to be trained well to manage depressive symptoms. This study aimed to assess healthcare providers' knowledge, attitude, and practices in screening and managing depressive symptoms among people living with HIV (PLWH) attending the Care and Treatment Clinics (CTCs) in Dar es Salaam, Tanzania. **Methods:** This was a cross-section study that employed a questionnaire to collect data. Convenient sampling was used to recruit 34 healthcare providers providing services at 23 public CTCs in Ubungo, Dar es Salaam. Data were analyzed using the SPSS program. Frequencies and percentages were run between the variables. Furthermore, in bivariate analysis, Pearson's Chi-square test was used to assess the association between independent and dependent variables. A p-value of < 0.005 was used to ascertain significant relationships between dependent and independent variables. **Results:** This study revealed that healthcare providers (HCPs) had moderate knowledge of the management of depression in general. There were a few misconceptions about depression, as a vast majority agreed that depressed patients can break down at any time. The majority (64.7%) of the study respondents were trained on depression, and more than half (52.9%) were trained while in medical college. The majority (97.1%) of respondents knew the effectiveness of pharmacological and psychological approaches to treatment. In this study, the majority of respondents (97.1 %) had positive attitudes toward the management of depression, with females being significantly more likely than males to have a positive attitude (p =0.028). Moreover, many years of experience showed a positive significant association with knowledge about the management of depression in PLWH (p =0.002).**Conclusion:** The majority of healthcare providers had moderate knowledge

and positive attitudes toward the management of depression in PLWH. More years of work experience were associated with higher knowledge. Findings from this study highlight the need for healthcare providers and policy planners to increase knowledge and skills in screening depressive symptoms among PLWH at the CTCs.

144. **Moshi, B.N., Philipo, E.G., Kileo, N.F., e*t al*… (2024). Prevalence of Stroke in Individuals with Sickle Cell Disease Pre-and during Hydroxyurea Uses: A Descriptive Cross-Sectional Study in Tanzania.** ***Advances in Hematology*****. Vol.2024(1).**

Doi:10.1155/2024/7950925.

ABSTRACT

Sickle cell disease (SCD) is an inherited blood disorder that leads to a variety of complications, including stroke. The use of hydroxyurea (HU) is reported to lessen the frequency and burden of stroke in SCD patients. However, less is known about the prevalence of stroke in SCD patients pre- and during the use of HU in sub-Saharan African (SSA) countries. Therefore, the study assessed stroke prevalence before and during uses of hydroxyurea among SCD patients in Tanzania. A hospital-based descriptive cross-sectional study was conducted at the sickle cell clinics in Dar es Salaam, Tanzania, from April 2023 to May 2023. A total of 228 participants were recruited, and data on demographic and clinical characteristics, HU use, and history of stroke were collected using a checklist from the respective patients' medical records and verbal communication with the patients or caregivers. Data analysis was done using SPSS software version 25, and findings are summarized using frequency and percentages. Out of 228 enrolled SCD patients, 124 (54.4%) were females, 109 (47.8%) were aged between 6 and 12 years, 226 (99.1%) were not married, 181 (79.4%) had primary education, and 209 (95%) were unemployed. The prevalence of

stroke pre-HU use was 28 (12.3%) and 6 (2.6%) after starting using HU. Out of 6 with stroke after starting using HU, 3 (50%) had a history of stroke pre-HU uses. The study showed that the prevalence of stroke among SCD patients is significantly reduced after HU use. The findings suggest the need for stakeholders to implement measures to ensure eligible SCD patients are kept on HU.

145. **Mossenson, A., Livingston, P., Brown, J., *et al*… (2024). A competency framework for simulation facilitation in low-resource settings: A modified Delphi study. Anaesthesia. 79(12).**

Doi: 10.1111/anae.16446.

ABSTRACT

Background: Skilled facilitators are essential to drive effective simulation training in healthcare. Competency-based frameworks support the development of facilitation skills but, to our knowledge, there are no frameworks that specifically address context-sensitive priorities developed with practitioners working in low-resource settings. Methods: We aimed to develop a core competency framework facilitation in low-resource settings using a modified Delphi process. We drew on the domain expertise of members of the Vital Anaesthesia Simulation Training Community of Practice, with the study guided by a four-member steering group experienced in the conduct of simulation in low-resource settings. In survey round 1, participants (n = 54) were presented with an initial competency set derived from a previous qualitative study and co-created a set of 57 competencies for effective simulation facilitation in low-resource settings. In survey round 2, participants (n = 52) ranked competencies by relevance into three performance categories: techniques; artistry; and values. In survey round 3, participants (n = 50) ranked competencies on their importance. The steering group collated results and presented a draft core competency framework. In survey round 4,

participants (n = 50) voted with 98% agreement that this framework represented the most relevant and important competencies for effective facilitation of simulation sessions in low-resource settings. **Results:** The final 32-item framework encompasses core competencies found in existing standards and includes important new concepts such as demonstration of cultural sensitivity; humility; ability to recognize and respond to potential language barriers; facilitation team collaboration; awareness of logistics; and contingency planning. **Discussion:** This competency-based framework highlights specific practices required for effective simulation facilitation in low-resource settings. Further work is required to refine and validate this tool to train simulation facilitators to deliver effective training to improve patient safety.

146. **Mrema, A., Kiwia P.H., Shaban, S.J., (2024). A Case of Metastatic Vulvar Choriocarcinoma Misdiagnosed as Vulvar Abscess: *Case Rep Obstet Gynecol.***

Doi: 10.1155/2024/9918452.

ABSTRACT

Background: Metastatic vulvar choriocarcinoma, a rare ectopic gestational trophoblastic neoplasia (GTN), often presents a diagnostic challenge due to its mimicry of other conditions, particularly in resource-limited settings. Its primary symptom is abnormal vaginal bleeding without a clear cause. Consequently, diagnosing and managing it poses difficulties for many low-resource health facilities, as evidenced by the current case. **Case Presentation:** We present the case of a 25-year-old, P2+2+2L2, who had a large painless, bleeding vulva mass for nearly 5 months. This followed a spontaneous abortion the month prior. The mass gradually increased in size and was accompanied by fever, pus discharge, and weight loss. Despite being treated at multiple health facilities for a vulvar abscess, there was no improvement. A diagnosis was finally made at a tertiary facility where elevated quantitative serum beta-human

chorionic gonadotropin (hCG) (β-hCG) was noted. Due to uncontrollable vulva bleeding, she was referred to another tertiary facility for emergency radiotherapy. Following stabilization, chemotherapy was administered using the EMA-CO protocol. **Conclusion:** The report highlights the difficulty in diagnosing vulvar choriocarcinoma, underscoring the importance of a high index of suspicion. Clinical tests such as serum (β-hCG) and imaging studies are crucial for diagnosis. In resource-limited settings, a simple strip-based urine pregnancy test with serial dilutions can be sufficient for diagnosing and managing vulvar choriocarcinoma.

147. **Mrema, G., Hussein, A., Magoge, W., *et al*… (2024). Burden of leprosy and associated risk factors for disabilities in Tanzania from 2017 to 2020. *PLoS One*. Vol.19(10).**

Doi: 10.1371/journal.pone.0311676.

ABSTRACT

Background: Leprosy is caused by Mycobacterium leprae which affects skin, nerves, eyes, and nasal mucosa. Despite global elimination efforts, Tanzania remains among 13 countries reporting more than 1000 leprosy cases annually. In 2021, Tanzania identified 1,511 new cases, with 10% having grade II disability. Moreover, 14 councils recorded leprosy rates exceeding 10 cases per 100,000 populations. This study aimed to assess the burden of leprosy and associated risk factors for disabilities in Tanzania from 2017 to 2020. **Methodology:** A retrospective cross-sectional study was conducted to investigate all registered treated leprosy patients from January 2017 to December 2020. The Leprosy Burden Score (LBS) was used to assess the disease burden, while binary disability. **Result:** A total of 6,963 leprosy cases were identified from 2017 to 2020. During this period, the point prevalence of leprosy declined from 0.32 to 0.25 per 10,000 people, and the new case detection rate decreased from 3.1 to

2.4 per 100,000 people; however, these changes were not statistically significant ($p > 0.05$). Independent risk factors for leprosy-related disabilities included male sex (Adjusted Odds Ratio (AOR) = 1.38, 95% Confidence Interval (CI) 1.22–1.57), age 15 years and above (AOR = 2.42, 95% CI 1.60–3.67), previous treatment history (AOR = 2.18, 95% CI 1.69–2.82), and positive Human Immunodeficiency Virus (HIV) status (AOR = 1.60, 95% CI 1.11–2.30).**Conclusion:** This study identified male sex, older age, positive HIV status, and prior treatment history as independent risk factors for leprosy-related disabilities. Additionally, despite the observed decline in point prevalence and new case detection rates, these changes were not statistically significant. To address leprosy-related disabilities, it is crucial to implement specific prevention strategies that focus on high-risk groups. This can be accomplished by enhancing screening and contact tracing efforts for early patient identification to prevent delays in intervention. Further research is warranted to analyze the burden of leprosy over a more extended period and to explore additional risk factors not covered in this study.

148. **Mruma, R.M., Dharsee, N., Malichewe, C.V., *et al*… (2024). Performance of an offline systematic error correction strategy in pediatric patients receiving adjuvant conformal radiotherapy for Wilm's tumor. *Plos one*. Vol. 19(2).**

Doi: 10.1371/journal.pone.0297997.

ABSTRACT

Background: Radiotherapy plays a key role as an adjuvant treatment in pediatric Wilm's tumor, improving both survival and quality of life. The success of radiotherapy depends on the precise delivery of radiation dose to the tumor while sparing radiosensitive structures in the vicinity of the tumor. Pediatric patients pose unique challenges in achieving accurate radiotherapy delivery due to their inability to

understand instructions and the high radio sensitivity of their tissues. Thus, it is important to determine the optimum geometric verification strategy that will ensure accurate delivery of the prescribed target as specified in the patient's treatment plan. Purpose: To evaluate the performance of an offline geometric correction strategy in ensuring accuracy and reproducibility during radiotherapy delivery in Wilm's tumor patients. **Material and methods:** The extended no-action level offline correction strategy was applied in the radiotherapy delivery of 45 Wilm's tumor patients. Gross errors from the first three fractions were used to calculate the mean errors which were then applied as offline correction factors. Mean errors among different groups were compared using a two-way analysis of variance (ANOVA) and Dennett's pairwise comparisons. All statistical analyses and data visualization were performed using Graph Pad Prism version 7 (Insight Partners, Graph Pad Holdings, and LLC). **Results:** A total of 45 patients were included in the study. In all three orthogonal directions, the recorded gross errors were significantly lower after the application of the systematic error corrections. Random errors were significantly larger in the longitudinal direction compared to lateral (mean difference = 0.28, p = 0.036) and vertical directions (mean difference = 0.37 cm, p = 0.003). Patients' age was a significant predictor of random errors whereby the magnitude of random error decreased with increasing age. **Conclusion:** This study shows that the offline correction strategy used is effective in ensuring the accuracy of radiotherapy delivery in pediatric Wilm's tumor patients.

149. **Msilanga, D. Shoo, J. and Mngumi, J. (2024). Patterns of vascular access among chronic kidney disease patients on maintenance hemodialysis at Muhimbili National Hospital. A single centre cross-sectional study. *PLOS Glob Public Health*. Vol. 4(11).**

Doi:10.1371/journal.pgph.0003678.

ABSTRACT

Hemodialysis vascular access profoundly impacts the quality of care for chronic kidney disease (CKD) patients worldwide, with arteriovenous fistulas (AVFs) preferred for superior outcomes. Despite global guidelines, Sub-Saharan Africa, including Tanzania, faces challenges, by still relying on non-tunneled central venous catheters (CVCs) due to accessibility and financial constraints. We aimed to describe the pattern of vascular access use among CKD patients on maintenance hemodialysis at Muhimbili National Hospital. A cross sectional study to describe the pattern of vascular access among patients with CKD on maintenance hemodialysis therapy. Descriptive statistics were used to summarize the baseline characteristics and patterns of vascular access. Our study received ethical clearance from the Muhimbili National Hospital Research Ethics Committee (Ref: MNH/IRB/VOL.1/2024/005). All consent forms were written and provided in English or Swahili. We analysed 200 study participants, with a mean age of 53.3 (14.5) years. Almost all participants-initiated hemodialysis with nontunneled central venous catheters (95.5%). A substantial portion continued to use non-tunneled CVCs (25.5%) with mean duration of 7.1 (2.1) months, some transitioning to tunneled CVCs (39.5%) or AVFs (35%). Among patients with multiple nontunneled catheters, catheter dislodgement was the main indication for catheter replacement. Our study highlights the prevalent use of nontunneled central venous catheters (CVCs) as the primary vascular access method for CKD patients undergoing hemodialysis at Muhimbili National Hospital, Tanzania. These findings underscore the urgent need for analysis of the cost associated with non-tunneled catheter reliance and interventions to improve access to AVFs and enhance vascular access management, ultimately optimizing patient outcomes in resource-limited settings.

150. **Msilanga, D., Muiru, A., Balandya, E., *et al*… (2024). Point of care creatinine testing for early detection of renal dysfunction in Tanzanian HIV patients: a study protocol. *BMC Nephrol*. Vol. 25(419).**

Doi: 10.1186/s12882-024-03840-3.

ABSTRACT

Background: Renal dysfunction (RD) is more prevalent among people living with HIV (PLHIV) in sub-Saharan Africa (SSA) due to factors such as co-infections, hypertension, diabetes, and nephrotoxic antiretroviral drugs like tenofovir. Early detection of RD is critical but limited by resource constraints in many SSA countries, including Tanzania. Point-of-care (POC) tests, such as the Stat-Sensor Creatinine test by Nova Biomedical, present a cost-effective and non-invasive option for early detection. This study will evaluate the diagnostic performance of the Stat-Sensor creatinine test in detecting renal dysfunction in HIV care and treatment clinics (CTCs) in Tanzania. It will be conducted for a period of six months, from November 2024 to April 2025.**Methodology:** The study will measure point-of-care creatinine using a rapid creatinine dipstick against the standard serum creatinine test. The diagnostic performance and agreement to diagnose renal dysfunction will be assessed using a standardized statistical approach: Bland-Altman analysis and linear mixed-effects models to test agreement between creatinine dipstick tests with serum creatinine. Receiver operating characteristics (ROC) statistics will be used to test the diagnostic performance of the creatinine dipstick test to diagnose renal dysfunction. **Discussion:** We hypothesize that POC creatinine testing will show strong diagnostic performance, providing a reliable, rapid, and cost-efficient alternative for RD detection, leading to better patient outcomes and integration of POC tests into routine HIV care.

151. **Msonda, T., Moshiro, R., Salim, N., *et al*… (2024). Trends in mortality and associated factors among neonates hospitalized at Muhimbili national hospital, Tanzania: A three-year retrospective study. *PLoS One*. Vol. 19(11).**

Doi: 10.1371/journal.pone.0310256.

ABSTRACT

Background: Tanzania is amongst the countries with high neonatal mortality in Sub-Saharan Africa (SSA), and estimates vary widely among regions. Various interventions are being implemented at Muhimbili National Hospital (MNH), a tertiary and teaching facility, to contribute towards the reduction of neonatal mortality. This study aimed to detail the magnitude, trends and factors associated with neonatal mortality at MNH. Methods and findings: A hospital-based retrospective cohort study was conducted from January 2018 to December 2020. Records of all neonates admitted during the study period were extracted from neonatal registers and the electronic medical record system and recorded in a pretested data collection form. Data cleaning and analysis were done using SPSS version 23. Poisson regression was used to determine adjusted relative risk (aRR) with a 95% confidence interval (CI) to test association. A p-value of <0.05 was considered significant. Of the 17,021 neonates admitted, 11,552 (67.9%) were inborn. During the three years reviewed, 1,814 (10.7%) neonates died. The mortality rates were 5.9% for inborn neonates, 24.1% for outborn neonates, and 4.8% for readmitted neonates. Mortality trends declined quarterly at an average of 0.15%. Factors associated with neonatal mortality included; birth weight < 2500g [{aRR = 1.14; 95% CI (1.01–1.29)}], GA < 37 weeks[{aRR = 1.17; 95% CI (1.03–1.33)}], fifth-minute Apgar score <7[{aRR = 2.53; 95% CI (2.32–2.77)}], vaginal delivery[{aRR = 1.39; 95% CI (1.24–1.55)}], out-born[{aRR = 2.85; 95% CI (2.58–3.14)}], positive maternal HIV status[{aRR = 1.18; 95% CI (1.02–1.36)}] and maternal age ≥35years [{aRR = 1.12; 95% CI (1.01–1.25)}].**Conclusion:** Despite a declining trend, in-hospital neonatal mortality at MNH is still high. Ongoing quality improvement strategies should prioritize the identification of neonates with risk factors for poor outcomes. Specifically, the high proportion of mortality among out-born neonates requires more attention and further investigation.

152. **Msonde, S., Mariki, B., and Kanyuma, L. (2024). Faculty Adoption of Open Science and Their Practices Towards Data Sharing in Tanzanian Health Universities.** ***International Information & Library Review*****. Vol. 56(4).**

Doi: 10.1080/10572317.2024.2409600

ABSTRACT

Open science (OS) is widely recognized as a new method of knowledge sharing using digital technologies. Despite the potential benefits OS offers, there is a low level of inspiration toward adopting it among researchers in higher learning institutions. The purpose of this study was to assess the faculty adoption of OS and their practices toward data sharing at Health Sciences University in Tanzania. The study employed a cross-sectional design, whereby a total of 252 faculties were systematically sampled from two purposefully selected health universities. Using a survey, the study employed SPSS to generate descriptive statistics and a coding strategy using ATLAS.ti software to analyze qualitative resultant data. Moreover, regression analysis determined the predicting factors that hindered faculty adoption of OS and data-sharing practices. The findings demonstrate that faculty had poor data-sharing practices triggered by a lack of institutional data-sharing policies, fear of data misinterpretation, and parasitic use of clinical research datasets with other researchers. However, the presence of a data repository, journal guidelines, and intellectual property rights are instrumental variables that allow faculty to practice OS and data sharing. Therefore, university libraries should take affirmative action to create awareness of the importance of practicing OS and data sharing among faculty and researchers. Such undertakings will allow other researchers to carry out comprehensive follow-up research to meet the increasing demand for innovative health research output in Tanzania.

153. Muchunguzi, A.H., Kimaro, E., Konje, E.T, (2024) Factors associated with glycaemic control and diabetes complications in patients at Bugando Medical Centre, Mwanza, Tanzania: A cross-sectional study design. *PloS one*. Vol. 30(19).

ABSTRACT

Background: Glycaemic control is essential for improving the quality of life in patients with Diabetes Mellitus (DM). Untreated hyperglycaemia can result in numerous severe and life-threatening complications, such as damage to the eyes, kidneys, nerves, heart, and peripheral vascular system. Appropriate glycaemic control and management is fundamental to prevent and delay diabetes complications. Therefore, this study aims to assess the prevalence of poor glycaemic control, its associated factors, and the prevalence of diabetes-related complications among DM patients. **Methods:** A cross-sectional study was conducted among 340 DM patients treated at Bugando Medical Center from 4th - 30th April 2023 to determine the prevalence of poor glycaemic control and its predictors. Secondary data from 7952 DM patients treated between April 2022 and 30th May 2023 were used to determine DM-related complications. STATA 15 version …was used for analysis. **Results:** Out of 340 patients, 66.4% had poor glycaemic control with HbA_{1c} or Random Blood Glucose greater than 7% or 7mmol/L, respectively. Older age, duration of DM of more than 10 years, insulin therapy, and those unaware of glycaemic target goals were factors associated with poor glycaemic control. (AOR: 2.46, 95% CI: 1.28–6.01, P = 0.03), (AOR: 3.15, 95% CI: 2.22–6.55, P = 0.016), (AOR: 3.07, 95% CI: 2.10–6.12, P = 0.022) and (AOR: 3.42, 95% CI: 2.17–5.97, P = 0.001), respectively. Of the 7952 patient records reviewed indicated that 44.5% had complications, of which 25.8% had neurological complications and 55.3% had multiple complications. **Conclusion:** Two-third of DM patients failed to achieve good glycaemic control and about half of the patient's records reviewed indicated they developed diabetic complications. Thus

appropriate interventions are necessary to improve glycaemic control and prevent or control complications among DM patients.

154. Mugusi, S., Mnkugwe, R.H., Sanga, A.A., *et al*… (2024). CYP2B6 and ABCB1 genotypes predict methadone plasma exposure among patients on maintenance therapy against opioid addictions in Tanzania. *Br J Clin Pharmacol*. Vol. 90(11).

Doi: 10.1111/bcp.16173.

ABSTRACT

Aims: Methadone maintenance therapy (MMT) exhibits significant variability in pharmacokinetics and clinical response, partly due to genetic variations. However, data from sub-Saharan African populations are lacking. We examined plasma methadone variability and pharmacogenetic influences among opioid-addicted Tanzanian patients. **Methods:** Patients attending MMT clinics ($n = 119$) in Tanzania were genotyped for common functional variants of the *CYP3A4*, *CYP3A5*, *CYP2A6*, *CYP2B6*, *CYP2C19*, *CYP2D6*, *ABCB1*, *UGT2B7* and *SLCO1B1* genotypes. Trough plasma concentrations of total methadone, S-methadone (S-MTD) and R-methadone (R-MTD), with their respective metabolites, 2-ethylidene-1,5-dimethyl-3,3-diphenylpyrrolidine (EDDP), were quantified using liquid chromatography–tandem mass spectrometry (LC–MS/MS). The methadone-to-EDDP metabolic ratio (MMR) was used to categorize the phenotype. **Results:** The proportions of MMR-predicted ultra-rapid, extensive, intermediate and slow methadone metabolizer phenotypes were 2.5%, 58.2%, 23.7% and 15.6%, respectively. *CYP2B6* genotype significantly correlated with S-methadone ($P = .006$), total methadone ($P = .03$), and dose-normalized methadone plasma concentrations ($P = .001$). Metabolic ratios of R-methadone (R-MTD/R-EDDP), S-methadone (S-

MTD/S-EDDP), and total methadone (MMR) were significantly higher among patients homozygous for defective variants (**6* or **18*) than heterozygous or *CYP2B6*1/*1* genotypes ($P < .001$). The metabolic ratio for S-MTD and total methadone was significantly higher among *ABCB1c.3435T/T* than in the C/C genotype. No significant effect of *CYP2D6*, *CYP2C19*, *CYP3A4*, *CYP3A5*, *CYP2A6*, *UGT2B7* and *SLCO1B1* genotypes on S-methadone, R-methadone, or total methadone was observed. **Conclusions:** Approximately one in six opioid-addicted Tanzanian patients are methadone slow metabolizers, influenced by genetic factors. Both the *CYP2B6* and *ABCB1* genotypes are strong predictors of methadone metabolic capacity and plasma exposure. Further investigation is needed to determine their predictive value for methadone treatment outcomes and to develop genotype-based dosing algorithms for safe and effective therapy.

155. Murenzi.G., Vuhahula, E., Kimambo, A.*, et al*… (2024). High-risk human papillomavirus genotyping in cervical cancers in Tanzania. *Agents and Cancer.*Vol.21 (54).

Doi: 10.1186/s13027-024-00596-1

ABSTRACT

Background: High-risk human papillomavirus (hrHPV) infection causes almost all cervical cancer. Women living with human immunodeficiency virus (Women living with HIV: WLWHIV) are at a six-fold increased risk of developing cervical cancer. This study assessed hrHPV types in cervical cancer by HIV status and histologic subtypes at Muhimbili National Hospital (MNH) in Tanzania. **Methods:** This cross-sectional study used formalin-fixed paraffin-embedded (FFPE) archived tissue blocks of cervical carcinomas diagnosed in the Department of Anatomical Pathology at MNH

from January to December 2020. Tissue sections were tested for 15 HPV genotypes (16, 18, 31, 33, 35, 39, 45, 51, 52, 53, 56, 58, 59, 66, and 68) using the Ampfire assay. The distribution of HPV genotypes was assessed and compared by HIV status and histologic subtypes. **Results:** The mean age ± standard deviation (N = 227, with valid HPV results) was 55 ± 12.9 years, 28.6% (n = 65) were WLWHIV, and squamous cell carcinoma (SCC) was the most common histologic subtype (91.2%). Most cervical carcinomas (81.1%, n = 184) tested positive for hrHPV with HPV16 (44.1%), HPV18 (15.9%), HPV35 (8.4%) and HPV45 (5.7%) being the most common HPV types. hrHPV was higher among older women with 64.5%, 85.1% and 81.3% among 30–40, 41–60 and ≥ 61-year-old women, respectively ($p = 0.033$). HPV16 was more commonly detected in SCC (47.8%) than in adenocarcinomas (5%) ($p < 0.0001$). There was no difference in hrHPV positivity by HIV status. **Conclusions:** We found a high proportion of hrHPV among cervical carcinomas diagnosed in Tanzania. Rolling out HPV vaccines that target more hrHPV types than HPV16/18, especially HPV35 and HPV45, could optimize protection against cervical cancer in Tanzania.

156. **Mushi, D., Hanlon, C., Moshiro, C., *et al*… (2024). A pilot study of implementing an adapted model for integration of interventions for people with alcohol use disorders in Tanzanian primary healthcare facilities. *BMC Health Services Research*. Vol.24 (1).**

Doi:10.1186/s12913024-10687-9.

ABSTRACT

Background: Ensuring that evidence-based interventions for people with alcohol use disorders (AUD) are acceptable, effective, and feasible in different socio-cultural and health system contexts is essential. We previously adapted a model of integration of AUD interventions for the Tanzanian primary healthcare system. This pilot study

aimed to assess the impact on AUD detection and the acceptability and feasibility of the facility-based components of this model from the perspective of healthcare providers (HCPs). **Methods:** This mixed-methods study comprised a pre-post quasi-experimental study and a qualitative study. The integrated model included training HCPs in managing AUD, introducing systematic screening for AUD, documentation of AUD service utilization, and supportive supervision. We collected information on the number of people identified for AUD three months before and after piloting the service model. A non-parametric trend test, a distribution-free cumulative sum test, was used to identify a change in the identification rate of AUD beyond that observed due to secular trends or, by chance, three months before and after implementing the integrated AUD facility-based interventions. The Mann-Kendal test was used to assess the statistical significance of the trend. We conducted three focus group discussions exploring the experience of HCPs and their perspectives on facilitators, barriers, and strategies to overcome them. The focus group discussions were analyzed using thematic analysis. **Results:** During the pre-implementation phase of the facility-based interventions of the adapted AUD model, HCPs assessed 322 people for AUD over three months, ranging from a minimum of 99 to a maximum of 122 per month. Of these, 77 were identified as having AUD. Moreover, HCPs screened 2058 people for AUD during implementation; a minimum of 528 to a maximum of 843 people were screened for AUD per month for the three months. Of these, 514 screened positive for AUD (AUDIT ≥ 8). However, this change in screening for AUD was not statistically significant (p-value = 0.06). HCPs reported that knowledge and skills from the training helped them identify and support people they would not usually consider having problematic alcohol use. Perceived barriers to implementation included insufficient health personnel compared to needs and inconvenient health management information systems. HCPs proposed strategies to overcome these factors and recommended multispectral engagement beyond the health system. **Conclusions:** Although the change in the trend in the number of people screened for AUD by HCPs post-

implementation was not statistically significant, it is still feasible to implement the facility-based components of the adapted integrated AUD model while addressing the identified bottlenecks and strategies for implementation. Therefore, a large-scale, adequately powered implementation feasibility study is needed. Findings from this study will be used to finalize the adapted model for integrating AUD interventions for future implementation and larger-scale evaluation.

157. **Mushi, R. (2024). Utilization of information and communication technologies (ICTS) for learning at Muhimbili university of Health and Allied Sciences.** ***iniceri2024 Proceedings*****.**

Doi: 10.21125/iceri.2024.2415

ABSTRACT

Introduction: The application of Information and Communication Technologies (ICTs) has become very important to contemporary educational delivery worldwide that it has virtually become impossible to deliver or receive higher education without the application of such advanced technologies in teaching, learning, research and consultancy. Muhimbili University of Health and Allied Sciences-MUHAS have invested in costly technologies in order to keep up with the rapidly changing technology to enhance the quality and relevance of education and research in the health sciences. **Objective:** To identify types of ICTs facilities available for teaching and learning at MUHAS and point out challenges hindering ICTs utilization within the university. **Methodology:** The target population for this study involved students at MUHAS. Nevertheless, only students from the School of Public Health and Social Sciences (SPHSS) out of 6 schools were chosen to participate in the study. The reason for choosing SPHSS, the school does conduct a lot of e-learning lectures for students. A total of N=173 students participated in the study from the targeted population

(N=200). Using quantitative techniques, N=132 (66%) individuals were surveyed. The data were analysed quantitatively using SPSS version-20. Results: The results reveled that, MUHAS students use ICTs for learning and they utilize different types of ICT hardware and software. However, lack of ICT skills, internet connectivity and shortage of ICT facilities were mentioned as major challenges for utilizing ICTs for learning. **Conclusion and recommendation:** CT technical staff needs to provide better technical support, maintenance and improve ICT facilities for students. Further, ICT management should provide wireless access around the campus and number of computer laboratory needs to be increased for e-learning to function perfectly. **Keywords:** ICT s, learning, internet, MUHAS, Muhimbili.

158. **Mushi, R., Lwoga, T. (2024). The efficaciousness of academic libraries in supporting e-learning at the university setting in low and middle-income countries: A scoping review.** ***Proceedings of EDULEARN24 Conference*****. Vol.**

Doi:10.21125/edulearn.2024.0343.

ABSTRACT

Introduction: The 21st century has witnessed E-learning as a progressively significant approach to both students and faculty members. Therefore, this scoping review aims to bring together studies related to the efficaciousness of academic libraries in supporting e-learning in a university setting in low and middle-income countries (LMICs). The protocol was registered in OFS in October 2022. **Methodology:** We searched for evidence (in English language) both published and unpublished literature from global databases. Databases include: Web of science, SCOPUS, EBSCO, ProQuest, Google scholar and HINARI through summon search and published reports were retrieved from relevant websites and organizations. Studies included those that focused on key factors that support E-learning at universities as well as outcomes in terms of: support

E-learning, capacity building, knowledge gathering, creation and dissemination. The main focus was on university students and faculty members. Studies on E-learning at secondary/primary schools were excluded. **Findings:** A total of 1642 records were retrieved and 832 potentially relevant articles were selected after title/abstract screening which resulted in 34 articles being excluded after full text screening, while six papers were included in this review. Results from all six studies shows that academic libraries in LMICs utilized E-learning and demonstrated how librarians, academic staff and students benefit from it. **Intervention:** Students utilize different library resources and facilities to enhance their online classes, including online submission of sessional work, and attending online examinations. **Conclusion:** The successful utilization of E-learning support students learning, online and digital services. Lack of internet infrastructure and limited funds appeared to be the main barrier to effective application of E-learning in academic libraries. Originality: The current review showed that there is a need to strengthen implementation of E-learning in LMICs.

Keywords: Academic Libraries, Low and Middle-Income Countries, LMICs, E-learning, Digital Libraries.

159. Mushi, R., Msoffe, G. (2024). Evaluating Tanzanian University Libraries' Preparedness for the Fourth Industrial Revolution in Teaching, Learning, Research and Consultancy. *Proceedings of ICERI2024Conference*.

ABSTRACT

Introduction: The Fourth Industrial Revolution (4IR), driven by ICT advancements, has significantly transformed library processes, activities, and services. The 4IR technologies, including the Internet of Things (IoT), Artificial Intelligence (AI), Cloud Infrastructure (or Cloud Computing), Big Data Analytics, Nanotechnologies, Advanced

Robotics, Sensors, Blockchain, and 3D printing, have been integrated into libraries worldwide. University libraries provide information services for teaching, learning, research and consultancy. Integrating 4IR technologies in libraries has improved library processes and enhanced service delivery. This underscores the need for libraries to embrace these technologies to keep pace with technological advancements and adapt their practices to the changing environment. **Objective:** The study investigates Tanzania University libraries' preparedness and adoption of the 4IR technologies for supporting teaching, learning, research and consultancy. Specifically, the study explored the awareness of the university libraries in implementing the 4IR technologies. Methodology: The study utilized qualitative and quantitative approaches to collect data from respondents. Data were collected using a questionnaire and semi-structured interviews. A stratified sampling method was employed to sample nine universities out of a population of twenty universities. The structured questionnaire was employed to collect data from 218 librarians from the selected universities. **Results:** The findings show that despite being aware of the advantages of the 4IR, most of the surveyed university libraries did not use 4IR technologies. The university libraries implementing 4IR technologies focused on the Internet of Things, cybersecurity, and cloud computing. Most university libraries lacked the infrastructure to integrate 4IR technologies successfully. **Conclusion:** The study underscores the need for universities to priorities' adopting 4IR technologies in libraries to keep pace with rapid technological advancements in teaching, learning, research and consultancy. Immediate action is urgently needed to ensure that Tanzanian University libraries are not left behind in the Fourth Industrial Revolution, as the consequences of inaction could be significant.

Keywords: Fourth Industrial Revolution, library, Artificial Intelligence, IA, 4IR.

160. Mutagaywa, R.K., Kifai, E., Elinisa, M., *et al*… (2024). Comparison between interventional versus medical therapy in patients with rheumatic mitral valve stenosis in Tanzania. *European journal of clinical investigation*. Vol. 54(3).

Doi:10.1111/eci.14114.

ABSTRACT

Background: Rheumatic heart disease remains the most common cardiovascular disease in children and young adults. The outcome of interventional versus medical therapy on the long term is not fully elucidated yet. This study provides contemporary data on the clinical profile, treatment and follow up of patients with rheumatic mitral stenosis (MS) in Tanzania. **Methods:** Patients' medical information, investigations and treatment data were recorded in this prospective cohort study. They were followed up for 6-24 months to determine the long-term outcome. Interventional therapy was defined as a combination of surgery and percutaneous balloon mitral valvuloplasty. Kaplan-Meier curves and Cox proportional hazards model were used in analyses. P-Value < 0.05 was considered statistically significant. **Results:** We enrolled 290 consecutive patients. Interventions were done in half of the patients. Median follow up was 23.5 months. Mortality was higher in the medical than interventional treatment (10.4% vs. 4%, log-rank p = 0.001). Median age was 36 years, females (68.3%) and low income (55.5%). Multivalvular disease was found in 116 (40%) patients, atrial fibrillation (31.4%), stroke/transient ischaemic attack (18.9%) and heart failure class III-IV (44.1%). Median (IQR) duration of disease was 3 (4) years, secondary prophylaxis (27.7%) and oral anticoagulants use (62.3%). In multivariable analysis, the risk of death among patients on medical was 3.07 times higher than those on interventional treatment (crude HR 3.07, 95% CI 1.43-6.56, p = 0.004), 2.44 times higher among patients with arrhythmias versus without arrhythmias (crude HR 2.44, 95% CI 1.19-4.49, p = 0.015) and 2.13 times higher among patients with multivalvular

than single valve disease (crude HR 2.13, 95% CI 1.09-4.16, p = 0.026). **Conclusions:** Intervention is carrying low mortality compared to medical treatment. Arrhythmias and multivalvular disease are associated with a high mortality. Rheumatic MS is more prevalent in young people, females and individuals with low income. There is a late hospital presentation and a low use of both secondary prophylactic antibiotics and anticoagulants.

161. Mwakawanga, D., Chen, S., Ogata, Y., *et al*… (2024). Barriers and facilitators of fetal heart monitoring with a mobile cardiotocograph (iCTG) device in underserved settings: An exploratory qualitative study from Tanzania. *PloS one*. Vol.19(12).

ABSTRACT

Background: Fetal monitoring in low-resource settings is often inadequate. A mobile cardiotocograph fetal monitoring device is a digital innovation that could ensure the safety of pregnant women at high risk and their fetuses through early detection and management of fetal distress. Research is scarce on factors that affect the implementation of fetal heart monitoring using the mobile cardiotocograph device in low-resource settings, including Tanzania. This study aimed to explore the barriers and facilitators of fetal monitoring with a mobile cardiotocograph device in Tanzania. **Methods:** We adopted an exploratory qualitative study to analyze the barriers and facilitators of fetal monitoring using the mobile cardiotocograph device in primary healthcare facilities. Seventeen face-to-face in-depth interviews with healthcare providers and seven focus group discussions with women were conducted. Braun and Clarke's thematic analysis guided the data analysis. It included the following steps: familiarizing with data, generating initial codes, searching for themes, reviewing themes, defining and naming themes, and producing the report.**Results:**Three themes emerged as barriers: individual-related ones, including inadequate knowledge and

skills to use mobile cardiotocograph devices, institutional barriers attributed to limited referral infrastructures and staff shortage, and community-related barriers, such as myths and misconceptions that limit antenatal care checkups. Individual factors, including motives and desires of healthcare providers and community trust in the healthcare system, support systems related to training and mentorship opportunities for healthcare providers, and the availability of community-based health programs in the respective areas, were revealed as facilitators of mobile cardiotocograph devices. **Conclusion:** Implementing iCTG in primary healthcare facilities is affected by several factors, from individual to institutional level. Providing user-friendly procedure manuals and training on the functions of the iCTG device and cardiotocograph interpretations could serve as potential solutions to improve the competence and confidence of healthcare providers. Moreover, the availability of supportive infrastructure, adequate human resources for health, and community sensitization were good points to start with when addressing institutional and community barriers. Nevertheless, multistakeholder engagement during the design and implementation of fetal monitoring using a mobile cardiotocograph device is warranted.

162. Mwakawanga, D.L., Sirili, N., Chikwala, V.Z. *et al*… (2024). We never considered it important…" a qualitative study on perceived barriers on use of non-pharmacological methods in management of labour pain by nurse-midwives in eastern Tanzania. *BMC Nurs*23(514).

Doi: 10.1186/s12912-024-02187-2

ABSTRACT

Background: A significant number of women experience labour without effective pain management and thus suffer from unbearable labour pain to the extent they term labour as the most agonizing event in their lives. Unresolved labour pain can lead to

stress, fear, and confusion, which may compromise placental perfusion and lead to birth asphyxia. Although various pharmacological and non-pharmacological labour pain management methods exist, the use of non-pharmacological methods (NPMs) to manage labour pain has remained low in low-resource settings. This paper explored the barriers for using NPMs to manage labour pain by nurse-midwives in eastern Tanzania. **Methods:** We conducted an exploratory qualitative study with 18 nurse-midwives purposefully recruited from the labour wards of two selected district hospitals in eastern Tanzania. Qualitative content analysis guided the data analysis. **Results:** Two categories illustrating barriers to using NPMs were generated: individual-level and institutional-level barriers. Individual-level barriers include (i) limited competencies of nurse-midwives on the use of NPMs for managing labour pain, (ii) inadequate exposure to labour pain management practices, (iii) misconceptions about labour pain relief, and (iv) a lack of opportunities for knowledge acquisition. The institutional barriers include (i) a critical staff shortage amidst many clients and (ii) an unfavorable healthcare facility environment. **Conclusion:** The implementation of NPMs for labour pain management by nurse-midwives in eastern Tanzania faces several institutional and individual barriers. We recommend addressing both supply- and demand-side barriers. Strengthening nurse midwives' competencies in NPMs adoption and use and improving the facility environment to ensure privacy during labour can be a starting point for addressing supply-side issues. We recommend dispelling myths and misconceptions through health promotion education to address demand-side barriers.

163. **Mwakyandile, T.M., Shayo, G.A., Sasi, P.G., *et al*… (2024). Hypertension and immune activation in antiretroviral therapy naïve people living with human immunodeficiency virus. *BMC Infectious Diseases*, Vol. 24(1).**

ABSTRACT

Background: The pathogenesis of hypertension (HTN) in people living with HIV/AIDS (PLHIV) is complex and remains not fully understood. Chronic immune activation (IA) is postulated to be one of the culprits. This notion is derived from studies in HIV-uninfected populations and/or animals while data on HTN and how it relates to IA in PLHIV remains scarce. We determined the relationship between HTN and IA among antiretroviral therapy (ART) naïve PLHIV**. Methods:** We analysed baseline data of 365 out of 430 clinical trial participants whose main aim was to investigate the effect of low-dose aspirin on HIV disease progression in PLHIV starting ART. Soluble CD14 (sCD14), T cells co-expressing CD38 and HLA-DR, and PD-1 were the IA and exhaustion markers, respectively studied and were analysed by flow cytometry. Mann-Whitney U-test was used for comparison of the markers by HTN status. A robust Poisson regression model was used to determine the predictors for HTN**.Results:** A quarter of the 365 were hypertensive (25.3%, 95% CI 20.9–29.8%), and, had higher median (IQR) body mass index (kg/m2) (23.4 (19.6, 28.0) versus 21.9 (19.3, 25.1)) and lower median (IQR) estimated glomerular filtration rate (mL/min/1.73m2) (101.2 (79.4, 126.9) versus 113.6 (92.7, 138.8)) than normotensive participants ($p < 0.05$). Participants with HTN had higher median frequencies of all markers of IA and exhaustion but lower sCD14 ($p > 0.05$). None of these markers significantly predicted the occurrence of HTN. **Conclusion:** Studied markers of IA and exhaustion were higher in PLHIV with HTN than those without but were unpredictive of HTN. Larger multicentre studies with a wider range of markers are needed to confirm the role of IA in HIV-associated HTN.

164. **Mwalwisi, Y.H., Fimbo, A.M, Hoellein, L., (2024). The comparison of the quality of selected brands of antibiotics in Tanzania sourced from different geographical regions. Journal of Antimicrobial Chemotherapy. Vol. 79(7).**

Doi: 10.1093/jac/dkae155.

ABSTRACT

Objectives: The quality of amoxicillin capsules, ceftriaxone for injection, and ciprofloxacin tablets was evaluated to determine whether there is any difference in quality when comparing the country of origin. This was undertaken because it has been claimed that antibiotics manufactured in Europe are of superior quality to those originating from Africa or Asia. **Methods:** Samples of amoxicillin capsules, ceftriaxone for injection, and ciprofloxacin tablets were collected from three randomly selected wholesale pharmacies in each city, namely Arusha, Dar es Salaam and Mwanza, Tanzania. The collected samples of collected brands were subjected to quality control testing as per their respective pharmacopoeial monographs. Amoxil 250 mg capsules (Glaxo Welcome, Mayenne, France), Rocephin (Roche, Switzerland) and Cipro-Denk 500 (Allphamed Pharbil Arzneimittel GmbH, Gottingen, Germany) were used as reference brands for the other generic brands of amoxicillin, ceftriaxone and ciprofloxacin, respectively. **Results: A** total of 31 brands (10 different brands of amoxicillin capsules, 9 of ceftriaxone sodium injections, and 12 of ciprofloxacin tablets) were collected from the targeted regions and subjected to quality control testing. All samples of collected brands complied with the requirements of their respective pharmacopoeial monographs. **Conclusions:** There was no significant difference in quality between brands of amoxicillin capsules, ceftriaxone for injection, and ciprofloxacin tablets manufactured in Africa and Asia against those manufactured in Europe in terms of compliance with the respective pharmacopoeial monographs.

165. Mwamwitwa, K., Nyamweru, B. Lwodyah, M., *et al*… (2024). A high-performance thin-layer chromatography densitometric method for the separation of isomeric ceftriaxone in powder for injection formulation. *Sci Rep*. Vol. 14(1).

Doi: 10.1038/s41598-024-77334-5.

ABSTRACT

The aim of this study was to develop and validate a High-Performance Thin Layer Chromatographic (HPTLC) method for simultaneous determination of ceftriaxone and ceftriaxone e-isomer in powder for injection formulation. Ceftriaxone sodium injection is an antibiotic that used globally. It has Z/E geometrical conformation, in which ceftriaxone sodium and 3 ene-isomer have Z- conformation while (E)-isomer has E-conformation and the potential toxicity of ceftriaxone (E)-isomer has been reported. Thus, to safeguard the public health, a simple and easy to use, rapid and reliable method was developed for qualitative and quantitative determination of ceftriaxone sodium and its (E)–isomer. Samples were applied on HPTLC glass plates precoated with silica gel 60F254 by using Linomat semi-auto sampler. Separation was carried out using acetone, triethyl amine, water, chloroform and ethyl acetate as a mobile phase in different ratios. The Rf values of separated compounds were 0.51 ± 0.01 and 0.62 ± 0.01 for ceftriaxone sodium and ceftriaxone (E)-isomer respectively. The method was validated by studying Specificity, Linearity, Accuracy, Precision, Robustness, Limit of Detection (LOD) and Limit of Quantification (LOQ) and Solution stability. The developed method was successfully, sensitive, simple, precise, accurate, robust and applicable for the simultaneous determination of ceftriaxone sodium and ceftriaxone (E)-isomer in powder for injection formulation.

166. Mwamwitwa, K.W., Bukundi, E.M, Maganda, B.A., *et al*… (2024). Adverse Drug Reactions Resulting From the Use of Chiral Medicines Amoxicillin, Amoxicillin-Clavulanic Acid, and Ceftriaxone: A Mixed Prospective-Retrospective Cohort Study. INQUIRY: *The Journal of Health Care Organization, Provision, and Financing.*

Doi: 10.1177/00469580241273323.

ABSTRACT

The use of chiral medicines (possessing center(s) of asymmetric carbon) may cause adverse drug reactions (ADRs). The safety assurance of these medicines is critical. We aimed to evaluate registered and commonly used anti-infective chiral medicines circulating in the Tanzanian market to establish their safety profile to protect public health. A mixed prospective-retrospective cohort study was conducted to assess the safety profile of amoxicillin, amoxicillin-clavulanic acid and ceftriaxone injection. ADRs causality assessment was conducted by using World Health Organization (WHO)-Algorithm criteria. Data were collected from 7 tertiary hospitals: Muhimbili National Hospital (MNH), Kilimanjaro Christian Medical Centre (KCMC), Bugando Medical Centre (BMC), Ligula Referral-Regional Hospital (LRRH), Kitete Referral-Regional Hospital (KRRH), Dodoma Referral-Regional Hospital (DRRH), and Mbeya Zonal-Referral Hospital (MZRH). Data were supplemented by those recorded in the *WHO-Vigiflow/VigiLyze database* within the same monitoring period. Data were analyzed using STATA version-15. The results were considered statistically significant when $P < .05$. A total of 2522 patients were enrolled in hospitals: MNH (499), KCMC (407), BMC (396), LRRH (387), KRRH (345), DRRH (249), and MZRH (239). Among those, 1197 (47.5%) were treated with ceftriaxone, 585 (23.2%) amoxicillin and 740(29.3%) amoxicillin-clavulanic acid. Out of those, 102 (4.5%) experienced adverse events (AEs), 49 (48%) were due to ceftriaxone, 37 (36.3%) amoxicillin-clavulanic acid and 16 (15.7%) amoxicillin (*P*-value .012). A total of 443 participants from the enrolled and *WHO-Vigiflow/VigiLyze database* were experienced with ADRs. The ADRs affected mainly gastro-intestinal system 234 (53%), skin and subcutaneous tissue 85 (19%), nervous system 49 (11%), respiratory thoracic 22 (5%), and general disorders 18(4%). In this study, approximately 90% of reported AEs were ADRs possible-related to the monitored medicines, with few plausible and certain. Ceftriaxone injection caused more ADRs. Amoxicillin-clavulanic acid was associated

with more ADRs than amoxicillin alone. The safety profile of these medicines is still maintained; however, comprehensive monitoring of ADRs is recommended to improve patient safety and enhance overall treatment outcomes.What do we already know about this topic?

167. Mwanga, H., Shebe, K. (2024). Latex and chlorhexidine allergy among healthcare workers in emergency centres in African settings: A review. Current Allergy & Clinical Immunology. Vol. 37(4).

ABSTRACT

Natural rubber latex (NRL) and chlorhexidine are important causes of occupational allergy in healthcare settings. A significant reduction in NRL allergy has been reported in countries that have adopted latex-avoidance measures. However, healthcare workers (HCWs) in many developing countries continue to use powdered NRL gloves, increasing their risk of developing an allergy to NRL. Chlorhexidine is commonly used for hand hygiene and disinfecting patients' surfaces or wounds in emergency centres. However, only a few cases of occupational allergy to chlorhexidine have been reported among HCWs. Both NRL and chlorhexidine can induce IgE-mediated allergic reactions and irritant contact dermatitis. Unlike NRL, chlorhexidine can cause cell-mediated hypersensitivity. Allergic contact dermatitis resulting from wearing NRL gloves is due to rubber additives and not NRL allergens. Testing for allergic sensitisation is a crucial step in the clinical evaluation of these allergies. Avoiding exposure to the source of the problem remains the most effective method of managing these allergies. Powdered NRL gloves should be replaced with powder-free, low-protein or low-allergen NRL gloves or non-NRL alternatives. For chlorhexidine allergy, alternative products should be made available to sensitised HCWs. Adequate information about these allergies should be provided to all HCWs. In addition, the

lowest effective concentration of chlorhexidine should be used and all chlorhexidine-containing products should be clearly labelled.

168. **Mwavika, E., Kunambi P., Masasi, S., *et al*… (2024). Prevalence, rate, and predictors of virologic failure among adult HIV-Infected clients on second-line antiretroviral therapy (ART) in Tanzania (2018–2020): A retrospective cohort study. *Bulletin of the National Research Centre*. Vol. 48(1).**

ABSTRACT

Background: Antiretroviral therapy (ART) has been proven to be highly effective in reducing the impact of human immunodeficiency virus (HIV) infection. However, as more people receive initial ART treatment, the risk of developing resistance and eventual treatment failure increases, leading to the need for second-line treatment regimens. Understanding the factors that contribute to virologic failure to second-line ART is crucial in preventing switching to the more expensive and toxic third-line regimens. This study provides information on the prevalence, rate, and predictors of virologic failure (VF) among clients on second-line ART in Tanzania. **Results:** We followed 4718 clients for 15100 person-years (PY) of observations. Of them, 1402 (29.72%) experienced virologic failure at a rate of 92.85 per 1000 PY of observations (95% CI 88.11, 97.84). Factors that were associated with VF included: having a viral load count of ≥ 1000 copies/mL during first-line ART, with a hazard ratio (HR) 4.65 (95% CI 3.57, 6.07), using lopinavir (LPV/r) as a protease inhibitor during second-line ART (HR 4.20 (95% CI 3.12, 7.10), having a CD4 count < 200 cells/mm3 during second-line ART (HR 1.89 (95% CI 1.46, 2.44), and being on ART for 13–35 months (HR 8.22 (95% CI 2.21, 30.61). Paradoxically, having a CD4 count < 200 cells/mm3 during first-line ART treatment was associated with a reduced risk of virologic failure (HR 0.77 (95% CI 0.60, 0.99). **Conclusions:** In Tanzania, approximately 30% of adult clients on second-line ART experience VF at a rate of 92.71 per 1000 person-years.

This high virologic failure rate underscores the urgent need for targeted interventions, such as enhancing adherence support, optimizing drug regimens, and regular viral load monitoring. These interventions will reduce the need for switching to the more costly and toxic third-line ART therapy and are also crucial for achieving the UNAIDS goal of 95% viral suppressi on among treated individuals by 2030.

169. Mwavika, E.T., Kunambi, P.P., Masasi, S.J., *et al*… (2024). Prevalence, rate, and predictors of virologic failure among adult HIV-Infected clients on second-line. Vol.44(96).

ABSTRACT

Background: Antiretroviral therapy (ART) has been proven to be highly effective in reducing the impact of human immunodeficiency virus (HIV) infection. However, as more people receive initial ART treatment, the risk of developing resistance and eventual treatment failure increases, leading to the need for second-line treatment regimens. Understanding the factors that contribute to virologic failure to second-line ART is crucial in preventing switching to the more expensive and toxic third-line regimens. This study provides information on the prevalence, rate, and predictors of virology failure (VF) among clients on second-line ART in Tanzania. **Results:**We followed 4718 clients for 15100 person-years (PY) of observations. Of them, 1402 (29.72%) experienced virologic failure at a rate of 92.85 per 1000 PY of observations (95% CI 88.11, 97.84). Factors that were associated with VF included: having a viral load count of ≥ 1000 copies/mL during first-line ART, with a hazard ratio (HR) 4.65 (95% CI 3.57, 6.07), using lopinavir (LPV/r) as a protease inhibitor during second-line ART (HR 4.20 (95% CI 3.12, 7.10), having a CD4 count < 200 cells/mm^3 during second-line ART (HR 1.89 (95% CI 1.46, 2.44), and being on ART for 13–35 months (HR 8.22 (95% CI 2.21, 30.61). Paradoxically, having a CD4 count < 200 cells/mm^3 during first-line ART treatment was associated with a reduced

risk of virologic failure (HR 0.77 (95% CI 0.60, 0.99). **Conclusions:** In Tanzania, approximately 30% of adult clients on second-line ART experience VF at a rate of 92.71 per 1000 person-years. This high virologic failure rate underscores the urgent need for targeted interventions, such as enhancing adherence support, optimizing drug regimens, and regular viral load monitoring. These interventions will reduce the need for switching to the more costly and toxic third-line ART therapy and are also crucial for achieving the UNAIDS goal of 95% viral suppression among treated individuals by 2030.

170. Mwilike, B.E., Welsh, J., Nyamuryekung'e, K.K., *et al*… (2024). Midwife-Led mobile antenatal clinic: An innovative approach to improve utilization of services in Pwani, Tanzania. *International journal of environmental research and public health*. Vol.21(11).

Doi:10.3390/ijerph21111446.

ABSTRACT

Background: Participating in antenatal clinics is a major determinant in reducing poor maternal and neonatal birth outcomes. We aimed to evaluate the utilization of antenatal clinic (ANC) services provided by a mobile clinic led by skilled midwives and determine the acceptability in the Pwani region, Tanzania. For a year, the mobile clinic, nicknamed "Mkunga Kitaani" and equipped with necessary tools and staff, served seven villages in the Kisarawe district that lacked health facilities. The research was conducted using a descriptive study design, incorporating both qualitative and quantitative methods. Qualitative and quantitative data were collected through 12 interviews and 214 medical records among pregnant women, respectively. The results show that approximately 17% of the women initiated ANC early, while 36% made their visit during their third trimester. Participants generally preferred the mobile clinic

over traditional facilities due to its provision of comprehensive care. However, challenges such as clinic unreliability during the rainy season and limited availability of tests, including obstetric ultrasounds, were noted. Despite hurdles, the study highlighted increased ANC access and community engagement, suggesting potential for expansion to other underserved rural areas. The findings underscore the importance of innovative approaches to ANC delivery in regions with limited healthcare infrastructure.

Keywords: midwifery-led; antenatal care; mobile clinic; utilization; Sub-Saharan Africa

171. Mzurikwao, D., Lulu, S., Simeon, M., *et al*… (2024). Profiling of Breast Cancer Prevalence and Its Diagnosis using Varied Imaging Techniques in Tanzania."

Doi:10.21203/rs.3.rs-3873411/.

ABSTRACT

Background: Breast cancer is not only the most commonly occurring cancer among women but also the most frequent cause of cancer-related deaths in women in developing countries. The mortality rate is marginally higher in developing countries than in developed countries with about 60% of the deaths occurring in developing countries. In Tanzania for example, breast cancer is the second leading cancer in terms of incidence and mortality among women after cervical cancer. Approximately half of all women diagnosed with breast cancer in Tanzania die of the disease. This is due to a poor shortage of medical facilities for cancer screening and diagnosis, a poor number of oncologists and pathologists, and the diagnosis costs in the country. Due to the mentioned factors, it is approximated that, 80% of breast cancer cases in in Tanzania are diagnosed at advanced stages (III or IV), when treatment is less effective, and

outcomes are poor. By 2030, new breast cancer cases are approximated to increase by 82% in Tanzania. The diagnosis/screening of breast cancer starts with breast imaging with ultrasound and mammograms. Suspected cases are then subjected to pathology for confirmatory tests. Although breast imaging plays a major role in both breast cancer screening and diagnosis, the service is largely not available in many developing countries. Our study found an absence of routine breast cancer screening in Tanzania, resulting in the late-stage detection of many cases. This is mainly due to a lack of enough well-trained radiologists to read the images and the costs of the process. This study aimed to explore the role and challenges of breast imaging in the screening and diagnosis of breast cancer in Tanzania, a developing country. Our results found that there is a significant number of malignancies under the recommended age of breast cancer screening of fifty (50) years of age. Our study also found a very high Inter variability among radiologists, which suggests the necessity of at least two radiologists reading the same case before the conclusion of the diagnosis. This study also discovered in our sample size that 66% of patients did not have their samples taken for confirmation by the pathologists. This might be due to the costs of the process or loss of follow-ups as many patients came far from the diagnosis Centre. Due to the challenges observed in breast imaging, this study recommends the use of computer-aided diagnosis (CAD) with Artificial Intelligence to assist the few numbers of radiologists available.

172. Naidoo, M.S., Gerlin, A. J., Ashok, H., (2024) Global survey on point of care ultrasound (pocus) use in child surgery.Vol.40 (249).

Doi: 10.1007/s00383-024-05797-8.

ABSTRACT

Purpose: To undertake a global assessment of existing ultrasound practices, barriers to access, point-of-care ultrasound (POCUS) training pathways, and the perceived clinical utility of POCUS in Child Surgery. **Methods:** An electronic survey was disseminated via the GICS (Global Initiative of Children's Surgery) network. 247 anonymized responses from 48 countries were collated. 71.3% (176/247) worked in child surgery. **Results:** Ultrasound was critical to practice with 84% (147/176) of requesting one daily or multiple times per week. Only 10% (17/176) could access emergency ultrasound < 1 h from request. The main barrier was a lack of trained personnel. HIC surgeons were more likely to have ultrasound training (24/29; 82.8%) compared with LMICs (74/147; 50.3%) ($p = .001319$; CI 95%). Self-perceived POCUS competence was associated with regularity of POCUS use ($p < 0.001$; CI 95%). Those who already practice POCUS most commonly use it for trauma, intussusception, and ultrasound-guided procedures. Majority (90%; 159/176) of child surgeons would attend formal POCUS training if available. **Conclusions:** Ultrasound is critically important in children's surgery globally, however, many surgeons experience barriers to timely access. There is a strong interest in learning POCUS for relevant pediatric surgical applications. Further research is needed to evaluate the best methods of training, accreditation, and governance.

Keywords: POCUS, Point-of-care ultrasound, Pediatric surgery, Bedside ultrasound, Clinical ultrasound

173. Ndejjo, R., Mitonga, H.K., Amde, W., *et al*… (2024). Schools of public health as a cornerstone for pandemic preparedness and response: The Africa COVID-19 experience. *Globalization and Health*. Vol. 20(1).

Doi: 10.1186/s12992-024-01087-z

ABSTRACT

Background: The Coronavirus disease (COVID-19) pandemic caused significant morbidity and mortality in Africa, in addition to other socio-economic consequences. Across the continent, Schools of Public Health (SPHs) played several roles in supporting national, regional, and global response to the pandemic. Following a published and grey literature search, this paper reviews and analyses the contribution of SPHs in Africa during the COVID-19 pandemic. Contribution of the Schools of Public Health SPH faculty in most countries contributed their expertise through COVID-19 task forces and advisory committees where they guided and supported decision-making. Faculty also supported the identification, review, and synthesis of rapidly evolving global and local evidence, adapting it to the local context to guide policy decisions. Through research, SPHs contributed to a better understanding of the disease epidemiology, response interventions, as well as prevention and control measures. SPHs engaged in training field epidemiologists, frontline health workers, and district response teams. SPH staff, students and field epidemiology trainees also supported field activities including surveillance, contact tracing, as well as managing quarantine facilities and points of entry. SPHs engaged in public education and awareness-raising initiatives to share information and dispel misinformation. In partnership with other stakeholders, SPHs also developed important innovations and technologies. **Conclusion:** SPHs are a critical pillar for pandemic prevention, preparedness, and response that support health systems with important functions. To further enhance their capacity, efforts to improve coordination of SPHs, strengthen collaboration among schools, harmonize training and curricula, and enhance capacity for advanced research are needed. There is also a need to bridge the inequities in capacity and resources that exist among SPHs across regions and countries.

174. **Ndumwa, H.P., Amani, D.E., Ngowi, J.E., *et al*… (2024). Mitigating the rising burden of non-communicable diseases through locally generated evidence-lessons from Tanzania. *Annals of Global Health*. Vol. 89(1).**

Doi: 10.5334/aogh.4111.

ABSTRACT

Background: The burden of Non-Communicable Diseases (NCDs) is rapidly increasing globally, and low- and middle-income countries (LMICs) bear the brunt of it. Tanzania is no exception. Addressing the rising burden of NCDs in this context calls for renewed efforts and commitment by various stakeholders. This paper highlights local initiatives and strategies to combat NCDs in Tanzania and provides lessons for countries with similar contexts. **Methods:** We reviewed published and grey literature and conducted policy analysis on NCDs in Tanzania to examine the burden of NCDs and the national response addressing it. The documents included National NCD strategic plans, NCD research agenda, and reports from the World Diabetes Foundation and the World Health Organization. Moreover, a scoping review of ongoing NCD activities and programs in other countries was also conducted to supplement the evidence gathered. **Results:** The rising burden of NCDs as a result of the epidemiological transition in Tanzania called for the launching of a dedicated National NCD Control and Prevention Program. The Ministry of Health collaborates with local, national, and international partners on NCD prevention and curative strategies. This led to the development of important guidelines and policies on NCDs, including strengthening the capacity of health facilities and healthcare workers, increased community engagement and awareness of NCDs, and increased advocacy for more resources in NCD initiatives. Strong governmental commitment has been vital; this is demonstrated by a renewed commitment to the fight through national NCD week and related advocacy activities conducted annually. To ensure multi-stakeholders' engagement and political commitment, all these activities are coordinated at the Prime Minister's office and provide strong lessons for countries with contexts similar to Tanzania. **Conclusion:** Multi-stakeholders' engagement, innovative

approaches, and coordinated governmental efforts to address NCDs have shone a light on addressing the burden of NCDs and may be sustainable if aligned with locally available resources. Such initiatives are recommended for adoption by other nations to address the burdens of NCDs.Keywords: Non-communicable diseases (NCDs), epidemiological transition, advocacy, multi-stakeholders, Tanzania

175. **Nekyon, D.O., Mung'ayi, V.O., Kasumba, J.M., *et al*… (2024). Capacity of anesthesiology residency programs in four east african countries: Can supply meet the demand? *Anesthesia & Analgesia*. Vol. 140(1).**

Doi: 10.1213/ANE.0000000000007164.

ABSTRACT

Background: By 2015, 4 East African countries (Kenya, Uganda, Rwanda, and Burundi) had identified a deficit in the number of anesthesiologists, with a mean density of 0.30 physician anesthesia providers (PAP) per 100,000 population, which was significantly lower than the World Federation of Societies of Anesthesiologists (WFSA) recommended minimum of 5.0/100,000 population. This workforce shortfall has been recognized as 1 factor that may negatively affect surgical outcomes. This survey sought to assess the capacity of anesthesia residency programs to meet recommended human resource standards in these countries. **Methods:** This retrospective cross-sectional study surveyed heads of anesthesia departments, principals of medical colleges that host residency programs and registrars of national medical councils in 4 East African countries. A descriptive analysis of the infrastructural characteristics, human resources, cost of training, enrollment, and output from the programs over 5 years (2015–2020) was conducted. The growth in the number of registered PAP and trends in workforce density were determined. The 2020 needs deficit was calculated based on the WFSA benchmark, and the projected

workforce needs in 2030 were estimated based on the population growth trajectory**.** **Results:** There were 7 accredited university-based anesthesia residency programs in 2020, with median (range) enrollment and graduation rates of 10.5 (2–18) and 5.5 (0–13) residents/country/year, respectively. Enrollment was unstable with some countries having years with no enrollment at all. Only 1 country had new programs planned. There was a median resident to supervisor ratio of 1.44 (0.89–7):1 and 50.3 (21.4–100)% of residency training supervisors had no academic faculty appointment. The median university tuition was $1677 (600–6165)/year. The number of PAP increased in all 4 countries median 5-year growth of 79.3 (22.7–150)%, with minimal impact on the low workforce density, median of 0.23 (0.04–0.35)/100,000 in 2020. The median deficit in PAP in 2020 was an estimated 1410 (589–2499) PAP, with a median need for 1763 (763–2911) new specialists per country by 2030. **Conclusions:** The PAP workforce deficits significantly outstripped the annual output of all residency programs. Anesthesia societies need to raise awareness about this deficit and engage policymakers to increase investment in anesthesia training, including providing scholarships and employment of PAP in training institutions. Integrating nonuniversity-based residency programs may support an increased output. The attainability of the 2030 workforce goals will need review. National strategies are needed to increase the total anesthesia workforce, which includes no physician anesthesia providers (NPAPs) as part of the task-sharing framework.

176. Ngassa, N.J., Masumo, R.M., Hancy, A., *et al*… (2024). Food and nutrient intake among non-pregnant, non-lactating women of reproductive age of Mbeya in Tanzania: A repeated 24-hour dietary recall. *PLOS Global Public Health*. Vol. 4(12).

Doi: 10.1371/journal.pgph.0004010.

ABSTRACT

Micronutrient deficiencies can hurt the health of women of reproductive age (WRA), their pregnancy outcomes, and the growth and development of their offspring in sub-Saharan African countries. The present study aimed to estimate the dietary intake of non-pregnant and non-lactating (NPNL) WRA, residing in seven districts of the Mbeya region in Tanzania using a 24-hour dietary recall. A cross sectional study was conducted among 500 NPNL WRA. A two-stage sampling method was used, three enumeration areas (EAs) were chosen for each district using the probability proportional to size and, 24 eligible households were randomly selected from each chosen EA. The SAS macros (version 9.4) were used to analyse the quantities consumed and explore the usual intakes of three fortified food vehicles. The median intake of oil, wheat flour, and calories was 36.47g, 110.53g, and 2,169.9 kcal, respectively. The median protein intake was 63.5g, higher than the recommended value of 56.0g. Among the micronutrients, zinc had the highest prevalence of inadequate intake (91.2%), followed by iron (82.2%), and vitamin B12 (80.0%). Vitamin E had the highest nutrient gap (50.7%), while the nutrient gap in Q1 was relatively low (9.8%). There was a moderate prevalence of inadequate intake of vitamin C (46.5%) and riboflavin (54.8%), with a nutrient gap in Q1 (42%). Inadequate intake of vitamin A, thiamine, niacin, vitamin B6, and folate was moderate, ranging from 32.6% to 44.4%, with a nutrient gap at Q1 ranging from 16.2% to 34%. Our study has revealed a prevalent inadequate intake of micronutrients among NPNL WRA. Furthermore, our findings suggest that fortifying oil represents a promising intervention. However, fortified wheat flour had limited reach among NPNL WRA in the Mbeya region of Tanzania.

177. Ngowi, E., Datoo, A., Ally, P., *et al*... (2024). Lissencephaly with subcortical band heterotopia in an East African child: A case report. *Radiology Case Reports*. Vol. 20(1).

Doi: 10.1016/j.radcr.2024.10.067.

ABSTRACT

Lissencephaly is a rare neuronal migration defect that results in a smooth cerebral surface, mental retardation, and seizures. It is diagnosed primarily by correlating clinical manifestations with MRI findings. We present a case of a 3-year-old girl with developmental delay and seizures. Her first seizure was at 14 months and MRI showed features of lissencephaly and subcortical band heterotopia. Lissencephaly is associated with gene mutations. Treatment focuses on antiseizure meds and physiotherapy to reduce seizures and improve motor skills. This case report highlights the importance of promptly diagnosing the LIS/SBH spectrum to enhance patient outcomes. Timely identification and treatment, such as physiotherapy, can significantly improve the quality of life, especially in resource-limited settings.

178. **Niccodem, E.M, Majigo, M, Nyongole, O.V. (2024). Urinary tract infections and associated factors among patients with an enlarged prostate at a tertiary hospital, Dar es Salaam, Tanzania: a hospital-based cross-sectional study. *BMJ Open*14(10).**

Doi:10.1136/ bmjopen-2024-085580.

ABSTRACT

Objectives: The objectives are to determine the prevalence of urinary tract infection (UTI) and associated factors among patients diagnosed with benign prostatic hyperplasia and prostate cancer. **Design Hospital-based cross-sectional study:** Settings Urology clinic and urology ward at Muhimbili National Hospital, which is the main tertiary hospital in Tanzania's largest city. Participants Patients with benign prostate hyperplasia and prostate cancer presenting with genitourinary symptoms.

Main outcome measure: The primary outcome was the occurrence of UTI and factors associated with UTI in patients with benign prostatic hyperplasia and prostate cancer. **Results:** 402 participants were enrolled, with a median age of 68 years and IQR of 61–75 years. The proportion of UTI was 46.5% (95% CI 41.56% to 51.53%). UTI was more prevalent among inpatients, patients with indwelling urinary catheters, patients with prostate size>80 cm3 and those with residual urine volume of >100 mL. In multivariate analysis, age>60 years (adjusted OR (aOR)=2.0, 95% CI 1.13 to 3.55, p=0.018), post-void residual urine volume>100 mL (aOR 1.32, 95% CI 0.67 to 2.59 p=0.001), patient with incomplete bladder emptying (aOR=2.57, 95% CI 1.44 to 4.59, p=0.001) and prolonged catheter duration (aOR=1.24, 95% CI 1.11 to 1.38, p=0.005) were significantly associated with UTI. **Conclusion:** Almost half of the patients with an enlarged prostate and genitourinary symptoms had a laboratory-confirmed UTI. The risk of UTI increases with age, incomplete bladder emptying and increased duration of catheterisation. A 1-day increase in the duration of catheterisation increased the risk of UTI by 24%.

179. Njale, E., Mahugija, J.A.M., Shilla, D.J., *et al*... (2024). Association between exposure to heavy metals and the risk of breast cancer: A case-control study in Tanzania. *Environ Toxicol Pharmacol*. Vol. 110.

Doi: 10.1016/j.etap.

ABSTRACT

Background: Exposure to heavy metals is suspected to influence breast cancer development, although epidemiological evidence regarding this association remains controversial. This study investigated the association between urinary heavy metal levels and breast cancer risk through a hospital-based case-control design, involving 50 breast cancer patients and 40 healthy females. Heavy metals were quantified using an

inductively coupled plasma atomic emission spectrophotometer (ICP-AES). The exposure levels were categorized into quartiles, and logistic regression was employed to evaluate the breast cancer risk associated with heavy metal exposure. The results revealed positive associations between the risk of breast cancer and concentrations of Al, As, Ni, Cd, and Pb. In addition, the risk of breast cancer was high among participants in the 2nd, 3rd, and 4th quartiles of Al, As, Ni, Cd, and Pb. However, Co showed an inverse association with breast cancer. These results indicate that increased concentrations of heavy metals, except Co, are associated with the risk of breast cancer.

180. Njile, D., Kivuyo, N., Brand, N., *et al*… (2024). Predictors of seroma formation and the associated impact on adjuv ant chemotherapy initiation for women undergoing mastectomy for breast cancer at a national referral hospital in Dar es Salaam, Tanzania: A prospective, observational study. *East and Central African Journal of Surgery*. Vol.29(1).

Doi:10.4314/ecajs.

ABSTRACT

Background: This study aimed to determine the incidence and predictors of seroma among post mastectomy breast cancer women and its impact on adjuvant therapy timing. **Methods:** We conducted a prospective observational study among women who received mastectomy plus axillary dissection for invasive breast cancer at Muhimbili National Hospital between April 2021 and May 2022. Patients' clinical demography, tumor characteristics, drainage features, and the development of seroma were documented. Use of adjuvant therapy was collected at a follow visit. Prediction of seroma development and impact of adjuvant therapy initiations was determined by chi -square test with significance set at p value of <5%. **Results:** We recruited 106 patients

of which seroma was present in 49% with age >50 years and drainage of >150cc in first 24hours being significant predictors (p-0.03 and 0.002 respectively). Long-term follow up was done to 86 (81%) of which 74 (87%) received adjuvant chemotherapy with delay being significant among those with seroma formation, p-value 0.018 **Conclusions:** Seroma formation is common among women post mastectomy with no modifiable factor. Delay in adjuvant therapy is significant in the setting of a seroma formation. More studies are needed to reduce seroma occurrence as well as mitigate its impact on adjuvant therapy initiation.

181. Njiro, B.J., Ndumwa, H.P., Waithera, H.W., *et al*… (2024). Epidemiology of non-communicable diseases among professional drivers in LMICs: a systematic review and meta-analysis. Health Promot Int. Vol. 39(4). Erratum in: *Health Promot Int*.

Doi:10.1093/heapro/daae087.

ABSTRACT

Background: This systematic review collected evidence on the burden of non-communicable diseases (NCDs) among professional drivers and reported on the most common factors that increase the risk of NCDs in this specific population in low- and middle-income countries (LMICs). The protocol for this systematic review was registered in the International Prospective Register of Systematic Reviews (PROSPERO). We thoroughly searched PubMed/MEDLINE, EMBASE, Scopus, Global Health, Web of Science, and Africa-wide information databases on 11 May 2023. We adapted the Joanna Briggs Institute (JBI) tool to assess the quality of the studies. We estimated the prevalence of hypertension, prediabetes, diabetes mellitus (DM), overweight, and obesity among professional drivers using a random effect model to compute pooled and subgroup analyses. In addition, we conducted a narrative

synthesis of the risk factors and recommendations presented in the included studies. Forty-one studies, including 48 414 study participants, met the criteria for inclusion. The pooled prevalence of hypertension, DM, and obesity among professional drivers was 36.7% [95% confidence interval (CI): 31.8–41.6%], 15.2% (95% CI: 7.0–23.4%), and 27.2% (95% CI: 18.7–35.8%), respectively. Unsupportive environment, work stress, sedentary lifestyle, consumption of unhealthy foods, and shift work were the most common modifiable risk factors reported. Our findings also show a significant burden of hypertension, DM, and obesity among professional drivers in LMICs. The prevalence of DM and obesity was two- and three-fold higher than findings in general populations, respectively. Our findings indicate an urgent need for tailored interventions for different occupation-related risk factors for NCDs among professional drivers in LMICs.non-communicable diseases, hypertension, diabetes mellitus, obesity, professional drivers, low and middle-income countries

182. Nkinda, L., Barabona, G., Ngare, I., *et al*... (2024). Evaluation of cross-neutralizing immunity following COVID-19 primary series vaccination during the Omicron surge in Tanzania. *Journal of Medical Virology.* Vol.96(8).

Doi: 10.1002/jmv.29822.

ABSTRACT

Background: COVID-19 vaccine became available in Tanzania during the first wave of the Omicron variant. During that time community seroprevalence of SARS-CoV-2 was already at 50%–80%. To date, it remains largely unknown whether ongoing vaccination with the primary series vaccines has any meaningful immune-boosting effects against newer Omicron subvariants. Therefore, we tested cross-neutralizing capacity of antibodies elicited by infection, vaccination, or both against SARS-CoV-2 Omicron subvariants BA.1, and the newer subvariants BQ.1.1 and XBB.1.5. that were

unexperienced by this population. Participants who were either SARS-CoV-2 infected-only (n = 28), infected vaccinated (n = 22), or vaccinated-only (n = 73) were recruited from Dar-es-Salaam, Tanzania, between April and December 2022. Plasma 50% neutralization titers (NT50) against SARS-CoV-2 wild-type strain and Omicron subvariants were quantified by a lentiviral-based pseudo-virus assay. Percentage of participants with neutralizing activity against WT and BA.1 was high (>85%) but was reduced against BQ.1.1 (64%–77%) and XBB.1.5 (35%–68%) subvariants. The low median cross-neutralization titer was slightly higher in the infected vaccinated group compared to vaccine-only group against BQ.1.1 (NT50 148 vs. 85, p = 0.032) and XBB.1.5 (NT50 85 vs. 37 p = 0.022) subvariants. In contrast, vaccine-boost among the infected vaccinated did not result to increased cross-neutralization compared to infected-only participants (BQ.1.1 [NT50 of 148 vs. 100, p = 0.501] and XBB.1.5 [NT50 86 vs. 45, p = 0.474]). We report severely attenuated neutralization titers against BQ.1.1 and XBB.1.5 subvariants among vaccinated participants, which marginally improved in the infected vaccinated participants. Our findings call for further studies to evaluate effectiveness of the primary series vaccines in preventing severe infection and mortality against the newer variants.

183. Nkinda, L., Shayo, V., Masoud, S., *et al...* (2024). Evaluation of a surrogate virus neutralization assay for detecting neutralizing antibodies against SARS-CoV-2 in an African population. *Biology Methods and Protocols*. Vol.10(1).

Doi:10/1/bpae095/7931518

ABSTRACT

The global resurgence of coronaviruses and the move to incorporate COVID-19 vaccines into the expanded program for immunization have warranted for a high-throughput and low-cost assay to measure and quantify mounted neutralizing

antibodies as an indicator for protection against SARS-CoV-2. Hence, we evaluated the surrogate-virus-neutralization-assay (sVNT) as an alternative assay to the pseudo-virus neutralization assay (pVNT). The sVNT was used to measure neutralizing antibodies among 119 infected and/or vaccinated blood samples, against wild-type SARS-CoV-2 (WT) and the Omicron-variant with reference to the pVNT. Four different cut-offs were assessed for suitability in distinguishing neutralizers: the manufacturer (>30%), literature-based (>50%) and (>80%), and population-based (>27.69%). The obtained data was analyzed using "R" through its integrated development environments; JAMOV and R-Studio. Using the WT strain, only the population-based cut-off was able to differentiate neutralizers from non-neutralizers beyond chance, with an area under the curve (AUC) of 0.833 (95%CI, 0.505–1.0; P = .049). Applying the population-based cut-off, improved the sensitivity to 100% from 91.4% obtained from the manufacturer cut-off (P = .002). However, the specificity remained low (67%). The negative-predictive-value also improved to 100% vs 16.4% (P = .006), but there was no difference in the positive-predictive-value (99.1% vs 99.1%) (P = .340). When we used the Omicron-variant, the sVNT titers were not able to predict the neutralizers and non-neutralizers with reference to pVNT (AUC of 0.649) (P = .221). The sVNT assay is a potential alternative for screening individuals harboring potent neutralizing antibody with high sensitivity, although we recommend continuous improvement of the assay in line with the viral mutations. Further, we recommend that individual users establish a population-based cut-off while using the sVNT assay.

184. **Nkya, S., Masamu, U., Kuona, P., *et al*… (2024). Update on SickleInAfrica: a collaborative and multidimensional approach to conduct research and improve health. *The Lancet Haematology*. Vol. 11(8).**

ABSTRACT

Sickle cell disease, a group of inherited haemoglobinopathies, is highly prevalent in people of African descent. It is estimated that 515 000 babies are born annually with sickle cell disease in Africa, mainly in sub-Saharan Africa, with 50–90% dying before adulthood. There is substantial disparity with respect to standards of care and volume of research on sickle cell disease between high-income countries in Europe and North America and low-income and middle-income countries, such as those in Africa. To reduce this gap, SickleInAfrica was formed to serve as a platform for African countries to work together to implement regionally appropriate standards of care for viduals with sickle cell disease. Phase one of SickleInAfrica (2017–21) was supported by 4-year grants from the US National Heart, Lung, and Blood Institute (NHLBI) to the Sickle Pan-African Research Consortium (SPARCo), headquartered at the Muhimbili University of Health and Allied Sciences (MUHAS) in Tanzania and operational in three countries (Ghana, Nigeria, and Tanzania), and the Sickle Africa Data Coordinating Centre (DCC), based at the University of Cape Town in South Africa. This phase led to enrolment into an electronic registry and active follow-up of 13 170 patients with sickle cell disease at clinics in all countries, development of multilevel standards of care guidelines, training of health-care professionals and researchers across the consortium, and development, planning, and execution of research studies. Following the success of phase one, the NHLBI requested applications for a second phase, which was competitively open to the three existing countries (Ghana, Nigeria, and Tanzania), new groups in other African countries, and coordinating centres, and which we summarise here. Subsequently, six awards were made to groups in Ghana, Nigeria, Tanzania, Mali, Uganda, and Zimbabwe and Zambia, each operating in multiple sites, and two coordinating centres. This second phase led to the expansion of the SickleInAfrica consortium, now composed of six country awards to Ghana (Kwame Nkrumah University of Science and Technology), Nigeria (University of Abuja), Tanzania (MUHAS), Mali (Centre de Recherche et Lutte contre la Drépanocytose), Uganda (Makerere University), and Zimbabwe and Zambia

(University of Zimbabwe and University Teaching Hospital in Zambia), the SPARCo Clinical Coordinating Center (CCC) based at MUHAS in Tanzania, and the DCC based at the University of Cape Town in South Africa (appendix p 1). To date, the consortium has registered a collective total of over 30 000 patients with sickle cell disease in a REDCap-based registry. The registry is comprised of demographic, clinical, and laboratory data and is aimed at supporting evidence-based research, including participation in on-going clinical trials for drugs and gene therapy. The database will also enhance personalised treatments and improve patient outcomes. The focus of the second phase of the consortium is the launching and successful completion of cross-consortium cohort studies and implementation research projects on sickle cell disease, with the overall goal of translating the research findings into policies that govern health-care practices for managing patients with the disease. The implementation research will focus on promoting key interventions that have been proven elsewhere to improve health outcomes of individuals with sickle cell disease, while the cohort studies involve following up of a group of patients with similar characteristics for a certain period of time to investigate selected factors and how these might be associated with health outcomes.

185. Nkya, S., Nzunda, C., Saukiwa, E. *et al*... (2024). Towards genomic medicine: a tailored next-generation sequencing panel for hydroxyurea pharmacogenomics in Tanzania. *BMC Med Genomics.* Vol. 17(190).

Doi:10.1186/s12920-024-01924-5.

ABSTRACT

Background: Pharmacogenomics of hydroxyurea is an important aspect in the management of sickle cell disease (SCD), especially in the era of genomic medicine. Genetic variations in loci associated with HbF induction and drug metabolism are

prime targets for hydroxyurea (HU) pharmacogenomics, as these can significantly impact the therapeutic efficacy and safety of HU in SCD patients. **Methods:** This study involved designing of a custom panel targeting BCL11A, ARG2, HBB, HBG1, WAC, HBG2, HAO2,MYB, SAR1A, KLF10, CYP2C9, CYP2E1 and NOS1 as potential HU pharmacogenomics targets. These genes were selected based on their known roles in HbF induction and HU metabolism. The panel was designed using the Illumina Design Studio (Illumina, San Diego, CA, USA) and achieved a total coverage of 96% of all genomic targets over a span of 51.6 kilobases (kb). This custom panel was then sequenced using the Illumina MiSeq platform to ensure high coverage and accuracy. **Results:** We are reporting a successfully designed Illumina (MiSeq) HU pharmacogenomics custom panel encompassing 51.6 kilobases. The designed panel achieved greater than 1000x amplicon coverage which is sufficient for genomic analysis. **Conclusions:** This study provides a valuable tool for research in HU pharmacogenomics, especially in Africa where SCD is highly prevalent, and personalized medicine approaches are crucial for improving patient outcomes. The custom-designed Illumina (MiSeq) panel, with its extensive coverage and high sequencing depth, provides a robust platform for studying genetic variations associated with HU response. This panel can contribute to the development of tailored therapeutic strategies, ultimately enhancing the management of SCD through more effective and safer use of hydroxyurea.

Keywords Sickle cell disease, Pharmacogenomics, Genomic medicine, Sequencing, Miseq illumina platform, Targeted panel, Tanzania.

186. **Nkya, S., Nzunda, C., Saukiwa, E., *et al*… (2024). Exploring Pharmacokinetic Factors Influencing Hydroxyurea Response in Tanzanian Sickle Cell Disease Patients: A Genomic Medicine Approach. *BioRxiv*.**

Doi: 10.2139/ssrn.4714409

ABSTRACT

Sickle cell disease (SCD) continues to pose a significant public health challenge, particularly in sub-Saharan Africa. Despite its discovery over a century ago, the progress in developing and accessing effective interventions has been notably restricted. Currently, hydroxyurea stands as the primary drug in widespread use, and has been associated with elevated levels of fetal hemoglobin (HbF) and enhanced clinical outcomes. Notably, a substantial proportion, up to 30%, of patients do not exhibit a positive response to hydroxyurea treatment. There is compelling evidence suggesting that genetic factors play a crucial role in influencing the effectiveness of hydroxyurea. In this study, we present findings on the investigation of genetic variants influencing hydroxyurea response in 13 genetic loci associated with HbF synthesis and hydroxyurea drug metabolism focusing on MYB, HBB, HBG1, HBG2, BCL11A, KLF10, HAO2, NOS1, ARG2, SAR1A, CYP2C9, CYP2E1. We report remarkable genetic associations with CYP2C9, CYP2E1, KLF10, BCL11A, ARG2, HBG1, SAR1A, MYB, and NOS1 loci with hydroxyurea response. We also highlight associated pathway's enrichment and gene-gene interactions analysis in the context of hydroxyurea treatment response. Keywords: Sickle cell disease (SCD), Hydroxyurea (HU), Genetic factors, Treatment response, Pharmacogenomics, Fetal hemoglobin (HbF).

187. Nnodu, O.E., Munung, N.S., Chirande, L., *et al*... (2024). Acceptability, barriers and facilitators of using dried blood spots-point-of-care testing for sickle cell disease in Africa: an implementation science protocol for a multinational qualitative study. *BMJ open*. Vol.14(11).

Doi:14/11/e089056

ABSTRACT

Background: Sickle cell disease (SCD) is a prevalent inherited blood disorder. Globally, approximately 515 000 babies are born with SCD annually, with 75% of these births occurring in Africa. Integrating newborn screening (NBS) for SCD into primary healthcare structures, such as immunisation programmes, holds significant promise, with dried blood spots (DBS)-point-of-care technologies (POCT) like HaemoTypeSC offering cost-effective screening solutions. However, scaling up DBS-POCT for NBS of SCD in Africa remains challenging. **Objective:** This study aims to explore individual, organisational and external factors that may influence the reliability, feasibility, acceptability, adoption and sustainability of using DBS-POCT with HaemoTypeSC for NBS of SCD at primary healthcare centres in African countries. **Method:** This qualitative study will be conducted in seven African countries that are part of the SickleInAfrica consortium sites. The study design is informed by the Consolidated Framework for Implementation Research (CFIR) and the Implementation Outcome Model. Participants will be mothers whose babies have been diagnosed with SCD, healthcare professionals and policy-makers. In-depth interviews and focus group discussions will be used for data collection. Data analysis will be through thematic analysis. **Ethics and dissemination:** Research ethics approvals have been obtained from the seven countries. Written informed consent will be obtained from all participants. The study results will be disseminated in peer-reviewed scientific journals, scientific conferences, reports to national ministries of public health and webinars.

188. **North, K., Semrau, K.E., Bellad, R.M., *et al*… (2024). the Association between Breastfeeding and Growth among Infants with Moderately Low Birth Weight: A Prospective Cohort Study. *The Journal of Pediatrics*. Vol.269.**

Doi: 10.1016/j.jpeds.2024.114003.

ABSTRACT

Objective: To assess the association between breastfeeding competency, as determined by Latch, Audible swallowing, Type of nipple, Comfort, and Hold (LATCH) and Preterm Infant Breastfeeding Behavior Scale (PIBBS) scores, and exclusive breastfeeding and growth among infants with low birth weight (LBW) in India, Malawi, and Tanzania. **Study design:** We conducted LATCH and PIBBS assessments among mother-infant dyads enrolled in the Low Birth weight Infant Feeding Exploration (LIFE) observational study of infants with moderately LBW (1500g-2499 g) in India, Malawi, and Tanzania. We analyzed feeding and growth patterns among this cohort. **Results:** We observed 988 infants. We found no association between LATCH or PIBBS scores and rates of exclusive breastfeeding at 4 or 6 months. Higher week 1 LATCH and PIBBS scores were associated with increased likelihood of regaining birth weight by 2 weeks of age [LATCH: aRR 1.42 (95% CI 1.15, 1.76); PIBBS: aRR 1.15 (95% CI 1.07, 1.23); adjusted for maternal age, parity, education, residence, delivery mode, LBW type, number of offspring, and site]. Higher PIBBS scores at 1 week were associated with improved weight gain velocity (weight-for-age z-score change) at 1, 4, and 6 months [adjusted beta coefficient: 1 month 0.04 (95% CI 0.01, 0.06); 4 month 0.04 (95% CI 0.01, 0.06); and 6 month 0.04 (95% CI 0.00, 0.08)]. **Conclusion:** Although week 1 LATCH and PIBBS scores were not associated with rates of exclusive breastfeeding, higher scores were positively associated with growth metrics among infants with LBW, suggesting that these tools may be useful to identify dyads who would benefit from early lactation support.

Keywords: low birth weight lactation support infant feeding breastfeeding pretermPIBBSLATCHsmall-for-gestational age infant growth.

189. Nyanda, C.J., Bhuko, J., Rubagumya, S.L., *et al*… (2024). Prevalence, Infection Intensity, and Risk Factors for Soil-transmitted Helminth Infections among School Children in Northwestern Tanzania. *Pathogens*. Vol.13 (8).

Doi: 10.3390/pathogens13080627.

ABSTRACT

Soil-transmitted helminthiases (STH) are among the neglected tropical diseases and infect more than 24% of the world population. The World Health Organization recommends regular monitoring of STH's prevalence and intensity following mass drug administrations to evaluate their effectiveness and inform future control strategies. This study evaluated the prevalence, intensity, and risk factors of STH infections among school children aged 6 to 14 years old in north-western Tanzania. A cross-sectional study was conducted among 728 school children in the Kagera region in 2021. Participants were selected using a two-stage cluster sampling method. A questionnaire was used to collect data on the risk factors. Stool samples were examined using the Kato–Katz technique. The data were analysed using STATA. The overall prevalence of STH was 56.2% (95% CI: 52.5–59.8, 409/728). About 5.7% and 1.1% of the infected children had moderate-intensity infections with Ascaris lumbricoides and Trichuris trichiura, respectively. Risk factors included the mother's occupation as a farmer (aOR: 1.2, p = 0.002) and not washing hands with water and soap (aOR: 1.4, p = 0.035). Washing one's hands after using the toilet (aOR: 0.6; p = 0.024) is a preventive measure against STH infections. STH was prevalent in the study area. The mother's occupation (farmer) and the lack of handwashing with water and soap influenced STH transmission. Conversely, washing hands after visiting the toilet and after playing with soil reduced the risk of STH infection.

Keywords: prevalence; soil-transmitted helminthiasis; risk factors; school children; northwestern Tanzania

190. Nyongole, O., Kakoko, D., Sirili, N., *et al*… (2024). Patients' perception on quality of care for prostate cancer at tertiary hospitals in Tanzania: A qualitative study. *Frontiers in Oncology*. Vol. 14 (11).

Doi: 10.3389/fonc.2024.1492302

ABSTRACT

Background: Prostate cancer is a common cancer among men globally and its treatment affects quality of life. Poor patients' perception of prostate cancer services may lead to their late presentation for care, often presenting with the advanced stage of the disease. This may vary from one region to another. **Objective:** This study, therefore, aimed to explore patients' perceptions of the quality of care for prostate cancer in Tanzania. **Methods:** This qualitative case study was conducted in five tertiary hospitals in Tanzania in November 2023. In-depth interviews were conducted with prostate cancer patients on treatment for not less than 6 months. Data on patients' perception of prostate cancer, quality of prostate cancer services, and quality of life among prostate cancer patients were collected. Thematic analysis used a hybrid inductive and deductive reasoning approach through NVivo 14 software. **Results:** A total of 17 interviews were conducted, resulting in four themes. These were perception of prostate cancer on the causes and diagnostic methods, delays of care leading to late presentation, perception of quality of life after treatment for prostate cancer recovery versus cancer progression, and quality of service in terms of organization of service delivery for prostate cancer at tertiary hospitals in Tanzania. **Conclusion:** Quality of services for prostate cancer was well-perceived, especially communication for psychosocial support. A good perception of the quality of service was found to influence the uptake of prostate cancer services. Prostate cancer patients have mixed perceptions about the quality of life after treatment, which delays health seeking, leading to late presentation. Despite efforts in awareness campaigns through different

platforms, more effort is needed in determining the causes of prostate cancer, the diagnostic/screening methods necessary for prostate cancer, timely health seeking, the available treatment options for prostate cancer, and the expected quality of life after treatment.

Keywords: prostate cancer, quality of care, treatment delays, perception, organization of services

191. Nyongole, O.V., Kivuyo, N.E., Akoko, L.O., *et al*… (2024). Estimating cost of prostate cancer management: an experience from Tanzania. *African Journal of Urology*.

Doi:10.1186/s12301-024-00422-5.

ABSTRACT

Background: prostate cancer (PC) is a significant public health problem affecting men worldwide and ranks third in incidence and mortality in East Africa. Cost of prostate cancer management is high in low-income countries because majority of patients presents with advanced (metastatic) PC. The cost related to management of PC including castrate resistant cancer in Tanzania has remained unknown; hence, policy makers do not have enough information for planning and resource allocation. This study therefore aimed to document costs related to the management of patients with prostate cancer including castrate resistant prostate cancer (CRPC) at Muhimbili National Hospital in Tanzania. **Methods:** This was a retrospective descriptive hospital-based study which was conducted at Muhimbili National Hospital (MNH). Case notes of patients who were treated for prostate cancer were retrieved from medical records for review. A structured checklist was used to extract information regarding age, clinical presentation, investigations, stage of disease, type of treatment, payment modality and reimbursement. We considered data on the direct costs of prostate cancer

management (diagnosis, treatment and follow-up) based on hospital price list of different categories. Costs reported were based on payment category in total and unit cost but also source of funding. Descriptive statistics were prepared and summarized as tables and figures. **Results:** A total of 292 case notes of patients with prostate cancer were reviewed of which 189 patients received androgen deprivation therapy. Ninety-six (50.8%) met the criteria for the diagnoses of CRPC, and their mean age was 71.23 ± 4.2. Most of the patients had a poorly differentiated histology with prostate-specific antigen (PSA) over 100 ng/l. Bilateral orchiectomy was the most common treatment modality offered for advanced prostate cancer. Total cost for all PC patients was $148,136.4, equivalent to a unit cost per patient of $507.3. However, patients were in different categories of payment, 53% were public patients with an average cost of $471.3 per patient; 36.6% were cost sharing patients with an average cost of $441.8 per patient; 8.2% were National Health Insurance (NHIF) patients with an average cost of $893.8 per patient; and only 2.2% were private patients with an average cost of $1060.9 per patient. **Conclusion:** Costs related to prostate cancer management need harmonization to accommodate different categories of patients in need.

192. Odame, I., Tshilolo, L., Makani, J., *et al*… (2024). The global fund should extend its mandate to include universal access to hydroxyurea. *The Lancet Haematology*. Vol.11(11).

Doi: 2352-3026(24)00275-8

ABSTRACT

Sickle cell disease was recognised as a global public health concern in 2008.1 The 63rd UN General Assembly adopted a resolution that urged member states and UN agencies, funds, programmes, international institutions, and development partners to raise awareness of sickle cell disease on June 19 each year, and to support health

systems and delivery of primary care to improve management of sickle cell disease. As the world has commemorated this day since the UN resolution 16 years ago, we urge that sickle cell disease be included in the global health agenda.

193. **Ojewunmi, O.O., Adeyemo, T.A., Oyetunji, A.I., *et al*… (2024). the genetic dissection of fetal hemoglobin persistence in sickle cell disease in Nigeria. *Human Molecular Genetics*. Vol.33(10).**

Doi: 10.1093/hmg/ddae014.

ABSTRACT

The clinical severity of sickle cell disease (SCD) is strongly influenced by the level of fetal hemoglobin (HbF) persistent in each patient. Three major HbF loci (BCL11A, HBS1L-MYB, and Xmn1-HBG2) have been reported, but a considerable hidden heritability remains. We conducted a genome-wide association study for HbF levels in 1006 Nigerian patients with SCD (HbSS/HbSβ0), followed by a replication and meta-analysis exercise in four independent SCD cohorts (3,582 patients). To dissect association signals at the major loci, we performed stepwise conditional and haplotype association analyses and included public functional annotation datasets. Association signals were detected for BCL11A (lead SNP rs6706648, $\beta = -0.39$, $P = 4.96 \times 10-34$) and HBS1L-MYB (lead SNP rs61028892, $\beta = 0.73$, $P = 1.18 \times 10-9$), whereas the variant allele for Xmn1-HBG2 was found to be very rare. In addition, we detected three putative new trait-associated regions. Genetically, dissecting the two major loci BCL11A and HBS1L-MYB, we defined trait-increasing haplotypes ($P < 0.0001$) containing so far unidentified causal variants. At BCL11A, in addition to a haplotype harboring the putative functional variant rs1427407-'T', we identified a second haplotype, tagged by the rs7565301-'an' allele, where a yet-to-be-discovered causal DNA variant may reside. Similarly, at HBS1L-MYB, one HbF-increasing haplotype

contains the likely functional small index rs66650371, and a second tagged by rs61028892-'C' is likely to harbor a presently unknown functional allele. Together, variants at BCL11A and HBS1L-MYB SNPs explained 24.1% of the trait variance. Our findings provide a path for further investigation of the causes of variable fetal hemoglobin persistence in sickle cell disease.

Keywords: fetal hemoglobin, sickle cell disease, genome-wide association study, heritability, haplotype analysis.

194. **Omofoye, T.S., Rooney, T.B., Ganti, R., *et al*… (2024). Designing a collaborative breast radiology training program to tackle Tanzania's breast cancer crisis. *Journal of the American College of Radiology*. Vol. 21(8).**

Doi: 10.1016/j.jacr.2024.02.033.

ABSTRACT

Background: Breast cancer incidence and mortality continue to increase in Africa. In Tanzania, breast cancer is the second leading cause of cancer death for women, and breast cancer incidence and mortality are projected to increase by 80% by 2030. Education gaps among health care workers, delayed presentation, limited screening, and low health literacy all pose significant challenges to providing optimal breast cancer care. Considering these factors, it is imperative to train expert breast radiologists. We present a collaborative breast radiology training program in Tanzania aimed at building local capacity to address national breast cancer challenges. Although cancer control in Africa faces many challenges, developing customized training programs for breast radiology, in conjunction with national cancer programs, may represent a key strategy for addressing breast cancer. Previous article in issue Next article in issue

Keywords: Breast cancer education global health global radiology training

195. Otieno, E.F., Osati, G.A., Shayo, R.Z., *et al*… (2024). Clinical manifestations and treatment outcomes among hospitalised COVID-19 patients in tertiary hospitals in Tanzania, 2021–2022: A retrospective cohort study. *BMJ Public Health*. Vol.2.

Doi: 10.1136/ bmjph-2023-000881.

ABSTRACT

Background: There have been differential mortality rates from COVID-19 in different parts of the world. It is not clear whether the clinical presentation does also differ, thus the need for this study in a sub-Saharan African setting. The aim of this study was to describe the clinical manifestations and outcomes of patients diagnosed with COVID-19 in selected tertiary hospitals in Tanzania. **Methods:** This was a retrospective analysis of hospitalised adults confirmed SAR-COV-2 infection in five tertiary-level hospitals in Tanzania. Data collected and analysed included sociodemographic, radiological and clinical characteristics of the patients as well as the outcome of the admission (discharge vs death). **Results:** Out of 1387 COVID-19 patients, 52% were males. The median age was 60 years ((IQR) = (19–102)). The most common symptoms were dyspnoea (943, 68%), cough (889, 64%), fever (597,43%) and fatigue (570, 41%). In-hospital mortality was (476, 34%). Mortality significantly increased with increasing age, being the most in age >90 years (aHR (95% CI)=4.4 (2.52 to 28.82), p=0.02). Other predictors of mortality were not possessing a health insurance, (aHR (95% CI)=3.7 (1.09 to 14.25), p=0.04); chest pain, (aHR (95% CI)=2.27 (1.36 to 4.13), p=0.03); HIV positivity, (aHR (95% CI)=3.9 (1.46 to 8.15), p=0.03); neutrophilia, (aHR (95% CI)=1.12 (1.01 to 2.65), p=0.03); no use of ivermectin, (aHR (95% CI)=1.21 (1.04 to 1.57), p=0.04) and non-use of steroids, (aHR (95% CI)=1.36

(1.18 to 2.78), p=0.04). The retrospective nature of this study which based on documented patients' records, with a large number of patients left out of the analysis due to missed data, this might in a way affect the results of the present study. **Conclusion:** In-hospital mortality was 34%. The independent predictors of mortality were advanced age, HIV infection, no possession of a health insurance, chest pain, neutrophilia and no use of steroids or ivermectin.

196. Ottaru, T.A., Kwesigabo, G.P., Butt, Z., *et al*… (2024). Prevalence and Risk Factors for Renal Insufficiency among Adults Living with HIV in Tanzania: Results from a Cross-Sectional Study in 2020–2021. In Healthcare. Vol. 12(6).

Doi: 10.3390/healthcare12060657.

197. Paulo, H.A., Andrew, J., Luoga, P., *et al*… (2024). Minimum dietary diversity behavior among children aged 6 to 24 months and their determinants: Insights from 31 Sub-Saharan African (SSA) countries. *BMC nutrition*. Vol.10(1).

Doi: 10.1186/s40795024009672.

ABSTRACT

Background: Feeding practices during infancy have a significant impact on a child's cognitive development and long-term health outcomes. Dietary diversity guidelines from the WHO and UNICEF recommend a diverse range of foods for children aged below 24 months for their optimal growth and development. However, in sub-Saharan Africa (SSA), little is known about the extent to which dietary diversity behaviour in children aged 6 to 24 months aligns with the recommendations and the factors associated with the differentials in dietary behaviour. This study aimed to fill this gap. **Methods:** This study employed an analytical cross-sectional approach, drawing on recent Demographic and Health Survey (DHS) data from 31 SSA countries. The study

included a weighted sample of 44,071 children aged between 6 and 24 months, and their respective mothers aged 15–49 years. The primary outcome was Minimum Dietary Diversity (MDD) categorised per WHO recommendation. Multivariable logistic regression was used to examine the association of MDD with demographic and socio-economic characteristics. **Results:** The pooled MDD intake among children aged 6–24 months in SSA was 11% ranging from as low as 1.3% in Burkina Faso to 32.9% in South Africa. Children of mothers aged 45–49 years had 52% significant higher likelihood of MDD compared to those aged 15–19 years (AOR = 1.52, 95% CI:1.03, 2.24). Higher maternal education levels also increased MDD odds in the children: 22% higher for mothers who had attained secondary education (AOR = 1.22, 95% CI:1.07, 1.39), and 36% higher for those with education beyond secondary level (AOR = 1.36, 95% CI:1.09, 1.71) compared to no education. Children of rich mothers had 44% higher odds of MDD than those with poor mothers (AOR = 1.44, 95% CI:1.27, 1.62). Increased antenatal visits, and urban residence also contributed to higher MDD odds. **Conclusion:** Based on the current global estimate of approximately 28% MDD rate, the reported 11% MDD intake among children in this study is relatively low. There is a positive association between MDD intake in children and several factors, including maternal education, antenatal visits, wealth index, and residency. These findings highlight the need for policymakers and other stakeholders to give urgent attention to empowering parents to ensure adequate nutrient intake among children for better child growth and development.

198. **Rahnavard, A., Chatterjee, R., Wen, H., *et al*… (2024). Molecular epidemiology of pregnancy using omics data: advances, success stories, and challenges. *Journal of translational medicine*. Vol. 22(1).**

Doi: 10.1186/s12967-024-04876-7.

ABSTRACT

Multi-omits approaches have been successfully applied to investigate pregnancy and health outcomes at a molecular and genetic level in several studies. As omits technologies advance, research areas are open to study further. Here we discuss overall trends and examples of successfully using omits technologies and techniques (e.g., genomics, proteomics, metabolomics, and met genomics) to investigate the molecular epidemiology of pregnancy. In addition, we outline comic's applications and study characteristics of pregnancy for understanding fundamental biology, causal health, and physiological relationships, risk and prediction modeling, diagnostics, and correlations.

Keywords: Pregnancy, Omits, Epidemiology, Computational biology

199. Rapp, T., Amagai, K., Sinai, C., *et al*… (2024). Micro heterogeneity of Transmission Shapes Submicroscopic Malaria Carriage in Coastal Tanzania. *J Infect Dis*. Vol. 230(2).

Doi: 10.1093/infdis/jiae276.

ABSTRACT

Background: Asymptomatic carriage of malaria parasites persists even as malaria transmission declines. Low-density infections are often submicroscopic, not detected with rapid diagnostic tests (RDTs) or microscopy but detectable by polymerase chain reaction (PCR). **Methods:** To characterize submicroscopic Plasmodium falciparum carriage in an area of declining malaria transmission, asymptomatic persons >5 years of age in rural Bagamoyo District, Tanzania, were screened using RDT, microscopy, and PCR. We investigated the size of the submicroscopic reservoir of infection across villages, determined factors associated with submicroscopic carriage, and assessed the natural history of submicroscopic malaria over 4 weeks. **Results:** Among 6076 participants, P. falciparum prevalence's by RDT, microscopy, and PCR were 9%, 9%,

and 28%, respectively, with roughly two-thirds of PCR-positive individuals harboring submicroscopic infection. Adult status, female sex, dry season months, screened windows, and bed net use were associated with submicroscopic carriage. Among 15 villages encompassing 80% of participants, the proportion of submicroscopic carriers increased with decreasing village-level malaria prevalence. Over 4 weeks, 23% of submicroscopic carriers (61 of 266) became RDT positive, with half exhibiting symptoms, while half (133 of 266) were no longer parasitemic at the end of 4 weeks. Progression to RDT-positive patent malaria occurred more frequently in villages with higher malaria prevalence. **Conclusions:** Microheterogeneity in transmission observed at the village level appears to affect both the size of the submicroscopic reservoir and the likelihood of submicroscopic carriers developing patent malaria in coastal Tanzania. Malaria, submicroscopic malaria, subpatent malaria, malaria transmission, asymptomatic reservoir

200. **Rasmussen, K.T., Alvesson, H.M., Pembe, A.B., *et al*… (2024). Women's and maternity care providers' perceptions of pain management during childbirth in hospitals in Southern Tanzania. *BMC Pregnancy and Childbirth* Vol.24 (417).**

Doi:10.1186/s12884-024-06606-9.

ABSTRACT

Background: The majority of women experience pain during childbirth. Offering and supporting women to use different methods for coping with pain is an essential competency for maternity care providers globally. Research suggests a gap between what women desire for pain management and what is available and provided in many low- and middle-income settings. The study aimed to understand how pain management is perceived by those involved: women experiencing childbirth and maternity care providers. **Methods:** Individual semi-structured interviews with women

(n = 23) and maternity care providers (n = 17) and focus group discussions (n = 4) with both providers and women were conducted in two hospitals in Southern Tanzania in 2021. Transcribed interviews were analyzed using reflexive thematic analysis. The software MAXQDA supported coding and analysis. **Results:** Three main themes were generated from the data. The first, 'pain management is multifaceted', describes how some providers and women perceived pain management as entailing various methods to manage pain. Providers perceived themselves as having a role in pain management utilization to varying degrees. The second theme 'pain management is primarily a woman's task' highlights a perception of pain management as unnecessary, which appeared to link with some providers' perceptions of pain as natural and necessary for successful childbirth. Few women explicitly shared this perception. The third theme 'practice of pain management can be improved' illustrates how women and maternity care providers perceived current practices of pain management as suboptimal. According to providers, this is primarily due to contextual factors such as staff shortage and poor ward infrastructure**. Conclusion:** Women's and maternity care providers' perceptions ranged from perceiving pain management as involving a combination of physiological, psychological, and social aspects to perceiving it as related with limited to no pain relief and support. While some women and providers had similar perceptions about pain management, other women also reported a dissonance between what they experienced and what they would have preferred. Efforts should be made to increase women's access to respectful pain management in Tanzania.

201. Rugakingira, A.A., Yondu, E., Thobias, J.M., *et al*… (2024). Opportunities and challenges for the integration of managing non-communicable diseases within HIV care and treatment services in Tanzania. *HIV Res Clin Pract*. Vol.25(1).

Doi:10.1080/25787489.2024.2398869.

ABSTRACT

Background: People living with HIV and non-communicable diseases (NCDs) are reported to experience challenges in accessing affordable and high-quality NCD care services. Consequently, the World Health Organization (WHO) recommends care integration of NCDs within the HIV services in resource-limited regions. The available opportunities and challenges need to be understood and addressed for an effective integration process. This study explored opportunities and challenges for integrating NCDs within HIV care and treatment services in Tanzania**. Methods:** An exploratory qualitative case study was conducted in Tanzania between April and July 2022. A total of 22 key informants working at the ministerial level, supervising the provision of healthcare services in Tanzania, were recruited purposefully for in-depth interviews. Thematic analysis was employed during the study. **Results:** Several opportunities were identified in the study for HIV/NCD services integration including the existence of an integration policy, the availability of regulations and guidelines, the existence of donor support, the presence of physical space and reliable information and communication systems, human resources adequacy, and political will to support the process. However, participants voiced concerns over the costs related to service integration, difficulties in reallocating donor funds, and hesitance of the healthcare providers as likely challenges to effective integration. **Conclusion:** The findings of this study underscore that the effective and sustainable care integration of NCDs within HIV services relies on the availability of policy, funds, infrastructures, human resources, and stakeholders' willingness to support the process.

Keywords: Opportunities challenges integration on-communicable diseases HIV services Tanzania

202. Ruhago, G.M., Tungu, M., Morrell, L. (2024). Understanding micro costing a genomics-based diagnostic in a resource-limited setting: Experiences

and challenges from a burkitt lymphoma study in sub-Saharan Africa. *Discover Health Systems*. Vol.3(1).

Doi:10.1007/s44250-024-00171-w

ABSTRACT

Genomic-based diagnostic tests are an important tool that can enable quick and accurate diagnosis. They can also facilitate timely interventions, prevent disease, and potentially improve health outcomes. However, the adoption of these tests has been patchy and most of the use of genomic diagnostics has been in developed countries. This uneven adoption globally is due to many reasons including insufficient evidence on test cost and cost-effectiveness especially in resource constrained settings. One initiative aimed to bring evidence to the decision-makers to expand this technology to developing countries. This initiative is the Aggressive Infection-Related East Africa Lymphoma (AIREAL) study, which is validating a genomic sequencing of circulating tumour deoxyribonucleic acid (DNA) isolated from a simple blood draw called “liquid biopsy” for diagnosis in children with suspected Burkitt lymphoma in Uganda and Tanzania. We undertook a micro costing study of the new sequencing test as an input to a cost-effectiveness analysis and as an input into policy decision on the affordability of new technology but also in the budgeting process. This paper aims to describe the process and potential challenges of applying micro-costing in developing country settings, by reflecting on the experience in practice during data collection. Undertaking micro-costing in East Africa revealed both expected and unexpected challenges. Time constraints was a recurring issue, with clinicians and laboratory staff being too busy to provide data. Weaknesses in local supply chains led to high and variable cost quotes, and philanthropic donations were prevalent which meant that it was difficult to acquire the actual cost of donated equipment and medical supplies. These could be mitigated in

future research by early engagement of the health economics team to develop understanding of the costing process among clinical and laboratory colleagues.

203. Rumbeli, N.M., August, F., Silvestri, V., *et al*… (2024). Factors influencing maternal death surveillance and review implementation in Dodoma City, Tanzania. A qualitative case study. *Learning Health Systems*. Vol. 8(2).

Doi: 10.1002/lrh2.10390.

ABSTRACT

Background: With 295 000 maternal deaths in 2017, 94% in low- and middle-income countries, maternal death is a matter of global public health concern. To address it, Maternal Death Surveillance and Response (MDSR) strategy was introduced in 2013 by the World Health Organization. With a reported maternal mortality ratio of 556:100000 per live births, Tanzania adopted the strategy in 2015. Studies are needed to understand factors influencing the implementation of MDSR in this specific setting. **Aims and Objectives:** The study aimed to assess the processes influencing MDSR implementation in Dodoma city council. **Methods:** A qualitative case study was conceptualized according to the Consolidated Framework for Implementation Research, focusing on implementation process domain. Members of MDSR committees were enrolled by purposeful sampling in the five health centres in Dodoma where the strategy was fully implemented and functional. In-depth interviews were conducted with key informants concerning the implementation processes influencing MDSR. Saturation was reached with the 15th respondent. Qualitative inductive content analysis was used to analyse data. **Results:** The inclusiveness in participatory planning process, stakeholders' readiness and accountability and collective learning were acknowledged as factors positively influencing the implementation of MDSR strategy by respondents. The interaction and alignment of influential factors were essential for

successful implementation. **Conclusions:** MDSR implementation is positively influenced by factors that interact and converge in the building of a learning health system, to increase knowledge through practice and improve practice through knowledge. Further studies are needed to analyse the influence of additional factors at different levels of implementation to fully understand and empower the MDSR implementation network, and to better target the goal of closing the knowledge to practice loop.

204. Rwezaula, S., Yonazi, M., Panchal, A., *et al*… (2024). Challenges and Outcomes of the First Stem Cell Transplant Program in Tanzania, East Africa. *Advances in Hematology*. Vol. *2024*(1).

Doi:10.1155/2024/1937419.

ABSTRACT

Introduction: Due to the significant resources involved in creating HSCT programs there is a significant disparity in the availability of this treatment modality between the developed and developing countries. This manuscript details the process and the outcomes of the first HSCT program in East Africa which was started at Muhimbili National Hospital (MNH) in Dar-es-Salaam, Tanzania. **Materials and Methods:** Information and data were collected on the processes which had been implemented for starting the HSCT program at MNH. The details of the collaborations, training, infrastructure development, and acquisition of the biomedical equipment, as well as the actual process for HSCT, as well as the outcomes of treatment are described. **Observations:** The project has been detailed in 4 stages for ease of description: Stage 1: Preparatory work which was performed by the Government of Tanzania, as well as the administrators and clinicians from MNH (July 2017-September 2021). Stage 2: Exploratory gap analysis by the teams from MNH and International Haematology

Consortium of HCG Hospital, India (HCG-IHC) in October 2021. Stage 3: Activities for closure of gaps (November 2021). Stage 4: Stem Cell Transplantation Camps (November 2021 to March 2022). 11 peripheral blood stem cell transplants were done in two camps, November 2021 (5 patients), and February 2022 (6 patients). 10 patients underwent autologous peripheral blood stem cell transplantation for multiple myeloma and 1 for lymphoma. The median duration of hospital stay was 19 ± 6 days. The median time for neutrophil engraftment, it was on 8.8 ± 0.8 days, and for platelet engraftment was 9.6 ± 2.4 days. Progression-free survival was 100%, and there was no mortality. **Conclusion:** Commonalities in the socioeconomic challenges in developing countries can be leveraged to create robust HSCT programs in other developing countries.

205. Rwezaula, S., Yonazi, M., Panchal, A., *et al*… (2024). Challenges and Outcomes of the First Stem Cell Transplant Program in Tanzania, East Africa. *Advances in Hematology*.

Doi:10.1155/2024/1937419

ABSTRACT

Introduction: Due to the significant resources involved in creating HSCT programs there is a significant disparity in the availability of this treatment modality between the developed and developing countries. This manuscript details the process and the outcomes of the first HSCT program in East Africa which was started at Muhimbili National Hospital (MNH) in Dar-es-Salaam, Tanzania. **Materials and Methods:** Information and data were collected on the processes which had been implemented for starting the HSCT program at MNH. The details of the collaborations, training, infrastructure development, and acquisition of the biomedical equipment, as well as the actual process for HSCT, as well as the outcomes of treatment are described.

Observations: The project has been detailed in 4 stages for ease of description: Stage 1: Preparatory work which was performed by the Government of Tanzania, as well as the administrators and clinicians from MNH (July 2017-September 2021). Stage 2: Exploratory gap analysis by the teams from MNH and International Haematology Consortium of HCG Hospital, India (HCG-IHC) in October 2021. Stage 3: Activities for closure of gaps (November 2021). Stage 4: Stem Cell Transplantation Camps (November 2021 to March 2022). 11 peripheral blood stem cell transplants were done in two camps, November 2021 (5 patients), and February 2022 (6 patients). 10 patients underwent autologous peripheral blood stem cell transplantation for multiple myeloma and 1 for lymphoma. The median duration of hospital stay was 19 ± 6 days. The median time for neutrophil engraftment, it was on 8.8 ± 0.8 days, and for platelet engraftment was 9.6 ± 2.4 days. Progression-free survival was 100%, and there was no mortality. **Conclusion:** Commonalities in the socioeconomic challenges in developing countries can be leveraged to create robust HSCT programs in other developing countries.

206. Saguda, N., Msisiri, L.S., Masika, G.M., *et al*… (2024). Caregiver's knowledge of childhood diarrhea disease prevention strategies and their associated factors in Dodoma, Tanzania. A Cross-Sectional Study. *SAGE Open Nursing*. Vol.10.

Doi: 10.1177/23779608241301.

ABSTRACT

Introduction: Childhood diarrhea remains a leading cause of death in children under 5 years of age worldwide, although the disease is both preventable and treatable. Effective caregiver involvement, rotavirus vaccinations, and parallel diarrhea prevention are critical. **Objectives:** This study aimed to assess caregiver's knowledge

of childhood diarrheal disease prevention, rotavirus vaccination knowledge, and associated factors in Dodoma, Tanzania. **Methods:** A hospital-based analytical cross-sectional study was conducted at Makole Health Center, Dodoma. Data were collected from 274 caregivers of children under 5 years of age who attended a routine immunization clinic. Respondents were interviewed using a semi-structured, pretested questionnaire. Data were analyzed for frequency, percentages, and mean, followed by multivariable linear logistic regression to examine the association between sociodemographic factors and caregiver's knowledge. **Results: Conclusion:** The results highlight the great need for public health programs to increase awareness of rotavirus vaccines and parallel diarrhea prevention interventions, which in turn will significantly improve caregivers' knowledge and therefore the prevention of diarrhea in children

207. Said, A.H., Mwanga, H., Hussein, A.K. (2024). Trends in case detection rate for leprosy and factors associated with disability among registered patients in Zanzibar, 2018–2021. *Bulletin of the National Research Centre*. Vol. 48(1).

ABSTRACT

Background: Leprosy is still a disease of public health concern. Globally, 2–3 million people are thought to be affected by leprosy's disease-related disabilities. Regarding leprosy status in Zanzibar, limited information is available. Determining changes in detection rates and factors associated with disability is crucial for treatment and preventative strategies for this debilitating disease. This study aimed to determine trends in case detection rate for leprosy and risk factors for disability among registered patients in Zanzibar, from 2018 to 2021. The study included all leprosy patients who received treatment in Zanzibar's 11 districts between 2018 and 2021. The study design used was an analytical cross-sectional. Prevalence and new case detection rate (NCDR) were calculated. Multivariable Poisson regression analyses were used to identify

factors associated with leprosy disability. Crude and adjusted prevalence ratios (APR) and their respective 95% confidence intervals (CI) were reported. P-values ≤ 0.05 were considered significant. **Results:** Of the 490 leprosy cases reported between 2018 and 2021, 469 (95.7%) were new patients, and 349 (71.2%) were multi-bacillary. The disease was found to be more common in males 296 (60.4%). The average prevalence was 7/100,000 population, while the average NCDR was 7/100,000 from 2018 to 2021. There was a significant decrease in disability grades from diagnosis to the end of treatment over 4 years (P < 0.001). Male sex (APR 1.55; 95% CI 1.18–2.04), advanced age (APR 5.01; 95% CI 1.91–13.17), multi-bacillary (APR 6.99; 95% CI 3.16–15.44) and HIV negative patients (APR 1.51; 95% CI 1.11–2.06) were more likely to develop physical disability. **Conclusion:** This study found that leprosy disability grades at diagnosis compared to the end of treatment declined during 4 years. There was no significant change in point prevalence and NCDR during the 4-year study period. Disability was associated with male sex, advanced age, multi-bacillary, and HIV-negative patients. To prevent leprosy-related disability and transmission, health education, early case detection, and adequate multidrug therapy should be prioritized.

208. Salome, E., Buluba., Jinyi He., *et al*… (2024). LiIntensive and Critical Care Nursing Practice and confidence in electrocardiogram interpretation among ICU nurses: A cross-sectional study Vol.86.

Doi: 10.1016/j.iccn.2024.103835.

ABSTRACT

Background: Objectives: This study aimed to determine practice and confidence in electrocardiogram (ECG) interpretation among intensive care unit (ICU) nurses in Fujian Province, China, and identify predictors of ECG interpretation practice. **Research methodology**: design A quantitative cross-sectional study was conducted

between October 2021 and December 2021 among 357 respondents. Setting Conducted online at twenty-one hospitals in all nine cities of Fujian Province. Main outcome measures Purposive and convenient sampling techniques were employed in selecting hospitals and respondents, respectively. A validated and pre-tested Chinese version of the questionnaire was used in data collection. We conducted binary logistic regression to identify the predictors of ICU nurses' ECG interpretation practice, and linear regression to analyze the relationship between ECG interpretation practice and confidence. We considered statistically significant a p-value < 0.05. **Results**: The practice mean score of the respondents was 5.54 (SD = 2.26) out of 10 points, and only 2.2 % of nurses correctly interpreted all the patient ECG strips. Few ICU nurses (25.5 %) had good ECG interpretation practice, with a confidence mean score of 2.02 (SD = 0.99) out of 4 points in their overall ability to interpret patient ECG strips. Currently working unit in comparison to cardiac ICU (emergency ICU: AOR = 5.71, 95 % CI: 1.84–17.75); previous ECG training (AOR = 2.02, 95 % CI: 1.10–3.70); source of ECG training (university/school) (AOR = 2.02, 95 % CI: 1.12–3.65); and ECG knowledge (AOR = 16.18, 95 % CI: 7.43–35.25) were significantly associated with the ECG interpretation practice. **Conclusions:** ICU nurses' ECG interpretation practice in the current study was relatively poor. An ECG education program is recommended to impart ICU nurses with basic ECG knowledge for enhancing good ECG interpretation practice and confidence in nursing care provision.

209. Sambayi, G. L., Bwire, G. M., Kilapilo, M. S., e*t al*… (2024). Barriers and Enablers to Retention in HIV Care and Adherence to Antiretroviral Therapy: Evidence from Dar es Salaam, *Tanzania. HIV/AIDS-Research and Palliative Care*, Vol.16.

Doi:10.2147/HIV.S458545.

ABSTRACT

Background: To explore the enabling factors, barriers, and strategies to improve retention in HIV care and adherence to antiretroviral therapy (ART) among adults (18 years and above) living with HIV in Dar es Salaam, Tanzania. **Methods:** We conducted a descriptive qualitative study to better understand and explore enablers, barriers, and strategies to improve retention in HIV care and adherence to antiretroviral therapy (ART) among PLHIV in Dar es Salaam, Tanzania. Focus group discussions (FGD) were conducted with a semi-structured discussion guide between December 2021 and June 2022. A non-random purposive sampling technique was used to select PLHIV and people involved in provision of healthcare and socioeconomic support to PLHIV. Thematic analysis was used to identify and interpret the themes. **Results:** Three major themes with 10 sub-themes emerged. Participants indicated that family and partner support, peer-support group/adherence clubs, and healthcare provider counselling on medication adherence facilitated retention and adherence to ART. In contrast, stigma and discrimination, financial constraints, disease outbreaks such as the COVID-19 pandemic, myths and misconceptions about HIV, and side effects of antiretrovirals were mentioned as barriers. Strengthening community and patient education about HIV and ART through peer support groups and financial support for poor PLHIV were the proposed mitigation. **Conclusion:** Addressing the challenges to ART adherence may require a more holistic approach. We recommend the implementation of peer support groups and financial support through small microfinance groups as interventions to increase retention in HIV care and adherence to ART in the study area. **Keywords:** people living with HIV peer support group stigma SDG 3.3

210. Sangeda, R.Z., James, D., Mariki, H., *et al*… (2024). Childhood vaccination trends during 2019 to 2022 in Tanzania and the impact of the COVID-19 pandemic. *Human Vaccines & Immunotherapeutics.* Vol. 20(1).

Doi: 10.1080/21645515.2024.2356342.

ABSTRACT

The COVID-19 pandemic has significantly disrupted healthcare systems at all levels globally, notably affecting routine healthcare services, such as childhood vaccination. This study examined the impact of these disruptions on routine childhood vaccination programmes in Tanzania. We conducted a longitudinal study over four years in five Tanzanian regions: Mwanza, Dar es Salaam, Mtwara, Arusha, and Dodoma. This study analyzed the trends in the use of six essential vaccines: Bacille Calmette-Guérin (BCG), bivalent Oral Polio Vaccine (bOPV), Diphtheria Tetanus Pertussis, Hepatitis-B and Hib (DTP-HepB-Hib), measles-rubella (MR), Pneumococcal Conjugate Vaccine (PCV), and Rota vaccines. We evaluated annual and monthly vaccination trends using time-series and regression analyses. Predictive modeling was performed using an autoregressive integrated moving average (ARIMA) model. A total of 32,602,734 vaccination events were recorded across the regions from 2019 to 2022. Despite declining vaccination rates in 2020, there was a notable rebound in 2021, indicating the resilience of Tanzania's immunization program. The analysis also highlighted regional differences in vaccination rates when standardized per 1000 people. Seasonal fluctuations were observed in monthly vaccination rates, with BCG showing the most stable trend. Predictive modeling of BCG indicated stable and increasing vaccination coverage by 2023. These findings underscore the robustness of Tanzania's childhood immunization infrastructure in overcoming the challenges posed by the COVID-19 pandemic, as indicated by the strong recovery of vaccination rates post-2020. We provide valuable insights into the dynamics of vaccination during a global health crisis and highlight the importance of sustained immunization efforts to maintain public health.

211. **Sangeda, R.Z., Ndabatinya, C.J., Maganga, M.B., *et al*… (2024). Good manufacturing practice inspections conducted by Tanzania medicines and medical devices authority: a comparative study of two fiscal years from 2018 to 2020. *Journal of Pharmaceutical Policy and Practice*. Vol. 17(1).**

ABSTRACT

Background: Good Manufacturing Practices (GMP) is the bedrock of quality assurance in the pharmaceutical industry that ensures that products are consistently produced and controlled according to quality standards. This study compared the GMP conformance of pharmaceutical facilities across two fiscal years, 2018/2019 and 2019/2020, using the East African GMP Compendium on Good Manufacturing Practices, 2014, as a benchmark. **Methods:** We analyzed the proportion of conformance of foreign pharmaceutical industries to GMP standards and reported the aggregated data over a two-year period. **Results:** Inspected facilities had notable non-conformances, most commonly related to laboratory quality control and premises. We noted a downward trend in conformance in 2019/2020 compared with 2018/2019, with only 32.9% of facilities adhering to EAC GMP requirements, down from 50% in the previous year. The COVID-19 pandemic has affected the ability to conduct on-site inspections, and may have contributed to the lower conformance rate. **Conclusions:** These findings underscore the crucial need to continue GMP inspections and the importance of taking corrective actions to ensure adherence to the quality standards for products marketed in Tanzania. The study further revealed the significance of desk reviews in assisting regulatory authorities in facing unforeseen challenges such as pandemics.

212. Sangeda, R.Z., William, S.M., Masatu, F.C., *et al*… (2024). Antibiotic utilization patterns in Tanzania: a retrospective longitudinal study comparing

pre-and intra-COVID-19 pandemic era using Tanzania Medicines and Medical Devices Authority data. ***JAC-Antimicrobial Resistance*****. Vol. 6(3).**

Doi: 10.1093/jacamr/dlae081.

ABSTRACT

Background: Antimicrobial resistance (AMR) is a growing public health concern globally, and misuse of antibiotics is a major contributor. **Objective:** This study investigated antibiotic utilization patterns before and during the COVID-19 pandemic in Tanzania using data from the Tanzania Medicines and Medical Devices Authority (TMDA). **Methods:** This retrospective longitudinal study analysed secondary data. The study compared antibiotics consumption in defined daily doses per 1000 inhabitants per day (DID) in two distinct eras: 2018–2019 as the pre-COVID-19 era and 2020–2021 as the intra-COVID-19 era. A sample t-test was conducted using Statistical Package for the Social Sciences. **Results:** The study analysed 10614 records and found an overall increase in antibiotics consumption from 2018 to 2021. We found that the consumption was 61.24 DID in the intra-COVID-19 era and 50.32 DID in the pre-COVID-19 era. Levofloxacin had the highest percentage increase in use, with a 700% increase in DID during the intra-COVID-19 era. Azithromycin had a 163.79% increase, while cefotaxime had a 600% increase. By contrast, some antibiotics exhibited a decrease in usage during the intra-COVID-19 era, such as nalidixic acid, which had a 100% decrease, and cefpodoxime, which had a 66.67% decrease. **Conclusions:** Increased antibiotic consumption during the COVID-19 pandemic highlights the importance of implementing effective antimicrobial stewardship strategies to prevent AMR, especially during pandemics.

213. **Sangeda, R.Z., Yohana, J., Jonathan, A., *et al*… (2024). Prevalence of urinary tract infections and antibiogram of bacteria isolated from children with sickle cell disease in Tanzania. *Cureus*. Vol. 16(4).**

Doi: 10.7759/cureus.58786.

ABSTRACT

Introduction: Individuals with sickle cell disease (SCD) are particularly vulnerable to urinary tract infections (UTIs) due to immunological deficits and renal abnormalities associated with the disorder. These infections can exacerbate underlying health issues and lead to severe complications if not managed promptly and effectively. Due to the heightened risk and potential consequences of UTIs in this population, this study aimed to determine their prevalence and explore the resistance patterns of causative pathogens among children attending the SCD Clinic at Muhimbili National Hospital (MNH), Dar es Salaam, Tanzania. Focusing on this demographic group, we sought to provide targeted insights to inform better clinical protocols and intervention strategies in regions heavily affected by SCD. **Materials and methods:** This prospective cross-sectional study was conducted at the MNH, Dar es Salaam, Tanzania, with an enrollment over two months from 19th March to 21st May 2015. We diagnosed UTIs in children with SCD using dipstick and culture methods. Antibiotic susceptibility was assessed using the Kirby-Bauer disc diffusion method, evaluating resistance patterns to antibiotics such as ampicillin, cloxacillin, erythromycin, chloramphenicol, ceftriaxone, and trimethoprim-sulfamethoxazole. The diagnostic accuracy of the dipstick and culture methods was validated to ensure reliability in detecting UTIs. Statistical analysis was conducted using Statistical Product and Service Solutions (SPSS) software (Released 2019; IBM Corp., Armonk, New York, United States). **Results:** Among the 250 children, 56 (22.4%) were UTI-positive according to the culture method and 62 (24.8%) were UTI-positive according to the dipstick test. Girls were

more likely to be UTI-positive than boys (29.1% and 13.6%, respectively; p-value = 0.011). Escherichia coli was the most common uropathogen, followed by Klebsiella, Staphylococcus, Proteus, and Pseudomonas (44.2%, 26.9%, 21.2%, 3.8%, and 1.9%, respectively). All isolates were resistant to ampiclox. Resistance rates to ampicillin, erythromycin, cotrimoxazole, chloramphenicol, and ceftriaxone were 94.2%, 76.9%, 59.6%, 46.2%, and 21.2%, respectively. **Conclusion:** This study indicated that dipsticks diagnosed more UTIs. The prevalence was higher in girls than in boys. Escherichia coli was the most commonly isolated antibiotic-resistant organism. High resistance levels were observed against the combination of ampicillin and cloxacillin. However, the isolates were less resistant to ceftriaxone. These results call for increased surveillance of resistant uropathogens in the pediatric population with SCD.

214. **Saronga, H.P., Kaaya, S., Fawzi, M.C.S. (2024). Cost-effectiveness of the healthy options group psychosocial intervention for perinatal women living with HIV and depression in Tanzania. *PLOS Mental Health*. Vol. 1(7).**

ABSTRACT

Healthy Options is a psychosocial support group intervention facilitated by community-based health workers (CBHWs) to reduce symptoms of depression in perinatal women living with HIV in Tanzania. The objective of this study was to determine incremental cost-effectiveness of Healthy Options intervention in comparison to enhanced usual care for depression (EUDC) intervention. This study is a cost-effectiveness analysis of Healthy Options intervention. The primary outcome for the Healthy Options intervention was level of depressive symptoms. We estimated disability adjusted life years (DALYs) by considering life years lived with disability and years of life lost due to premature mortality resulting from depression. This study applied ingredients approach to cost all resources used in the intervention. We estimated total cost, unit cost, and incremental cost-effectiveness ratio (ICER) from a

health care provider perspective. We used 3-year time horizon, univariate sensitivity analysis, and adjusted costs to 2017 value. Healthy Options intervention demonstrated effectiveness in reducing depressive symptoms among pregnant women with HIV in Tanzania. Total cost of Healthy Options was $319,729. Cost per woman treated was $883. ICER at 6 weeks postpartum is $89,699 per mean decrease in depression score and $310,030 per mean decrease in depression score at 9 months. ICER per DALY averted is $24,754 at 6 months and $4,169 at 9 months. Benefits of Healthy Options are sustained through 9 months postpartum. Healthy Options is nevertheless not cost-effective because ICER is above cost-effectiveness threshold. However, since mental health care is scarce in Tanzania, working with CBHWs is likely to offer effective intervention for maternal depression among women with HIV and it can be a less costly alternative to formal mental health professionals.

215. Saronga, H.P., Dakika, Z. (2024). Examining Factors Influencing the Use of Health Management Information Systems Data for Health Facility Planning in Kigoma Ujiji Municipal and Kigoma District Councils, Tanzania. *East African Journal of Applied Health Monitoring and Evaluatio*n, Vol.7(3).

Doi:0000000219464855

ABSTRACT

Introduction: Tanzania has adopted an open-source Health Management Information System (HMIS) to help understand health patterns, make informed decisions, and take action to improve the quality of health services through effective planning. However, generating and utilizing health data in most facilities presents significant challenges. This study examined factors influencing the use of HMIS data for health facility planning in Kigoma Ujiji Municipal and Kigoma District Councils. **Methods:** This cross-sectional explanatory study was conducted using a qualitative approach in two

districts of the Kigoma region—Kigoma and Ujiji district councils. Participants included members of the Council Health Management Teams and staff from six healthcare facilities. The study employed the PRISM framework to explore how technical, organizational, and behavioral factors influence the use of data in health facility planning. Data was collected through in-depth interviews and focus group discussions. Thematic analysis, supported by NVivo software, was applied to manage and analyze the data. **Results:** A total of 32 participants were involved in this study. Most reported that health facilities had standard indicators, data collection forms, and established data analysis and reporting procedures, with clear HMIS roles and responsibilities. However, challenges such as poor data quality, insufficient IT resources, inadequate staff training, limited financial support, and unsupportive organizational culture were reported to affect the effective use of data in planning. **Conclusion:** Poor data quality, inadequate training, inadequate HMIS staff, and poor information culture, motivation, attitudes, and values limited data use. This study calls for health system interventions to address staffing, training, information culture, data quality, and individual attitudes and behaviors to improve the use of data in health facility planning and decision-making.

216. Sasi, P., Makubi, A., Sangeda, R.Z., *et al*… (2024). Hydroxyurea mobile directly observed therapy versus standard monitoring in patients with sickle cell anemia: a phase 2 randomized trial. *Communications Medicine.* Vol. 4(1).

Doi: 10.1038/s43856-024-00552-5.

ABSTRACT

Background: Sickle cell anemia (SCA) prevalence remains high in sub-Saharan Africa. Long-term treatment with hydroxyurea (HU) increases survival; however, poor adherence to treatment could limit effectiveness. Whilst HU treatment adherence is

currently high, this might decrease over time. **Methods:** We conducted a single-center, randomized, open-label, parallel group phase 2 controlled clinical trial to determine whether mobile Directly Observed Therapy (m-DOT) increases HU treatment adherence (NCT02844673). Eligible participants were adults with homozygous SCA. People on a chronic blood transfusion program, with hemoglobin (Hb) A levels greater than 20% of the total Hb, total Hb less than 4 g/dL, pregnant or HIV positive were excluded. After a 3-month pre-treatment period participants were randomized to either m-DOT or standard monitoring arm. All participants received smart mobile phones and were treated with HU (15 mg/kg) daily for three months. In the m-DOT arm, drug intake was video recorded on cell phone by the participant and the video sent to the study team. The primary objective was to evaluate the effect of m-DOT on adherence to HU treatment by medication possession ratio (MPR). **Results:** Of the 86 participants randomized, 76 completed the trial (26.13 ± 6.97 years, 63.5 % female). Adherence was high (MPR > 95 %) in both groups, 29 (80.6 %) in m-DOT versus 37 (94.9 %) in the standard monitoring arm (P = 0.079). No HU treatment was withheld from participants due to safety concerns. **Conclusions:** m-DOT did not increase adherence to HU treatment. We recommend that further testing in larger trials with a longer follow up period be undertaken.

217. Sawe, H.R. (2024). Impact of trauma systems on injury morbidity: important considerations for low-income and middle-income countries. *Emergency Medicine Journal*. Vol. 41(7).

Doi: 10.1136/emermed-2024-214005.

ABSTRACT

The impact of trauma care system implementation has largely and traditionally focused on demonstrating its potential to reduce injury-related mortality. 1 In their EMJ paper,

Bath et al report the results of a systematic review of comparator study types published since 2000 that investigated the impact of organised trauma systems on morbidity, quality of life and economic outcomes. 2 The study screened 8181 articles and found only 7 addressing this important issue. The authors describe results from two studies that showed lack of benefit of trauma systems in morbidity from traumatic brain injuries. Three additional studies had conflicting results regarding the impact on quality of life after trauma system implementation, with two showing patients having significant increase in good recovery and lower limb salvage, while the third reported no change to minimal reduction in morbidity–mortality rates. Lastly, two studies evaluated health economic and cost-effectiveness outcomes. One demonstrated a positive cost–benefit analysis; however, the other found a substantial increase in years lived with disability, despite a reduction in years of life lost. All studies came from high-income countries. The authors conclude that there is a paucity of high-quality data assessing the impact of trauma system implementation on morbidity, quality of life and economic outcomes. They particularly caution the implementation of trauma system in low-income and middle-income countries (LMICs) because of the potential impact of creating more disabilities where the sociocultural and healthcare infrastructure may be unable to cope. The findings of this systematic review stimulate important considerations for the development of safe and effective trauma systems in LMICs. Nearly 90% of the burden of death and disability from injuries occurs in LMICs. 3 In most LMICs, there is no organised trauma care system, with most places facing challenges in creating such systems related to geographical challenges, infrastructural resources and expertise. As an example, in Tanzania, despite recent significant government investments in Emergency Department infrastructure, the country still has no formal prehospital care system. 4 Trauma patients are brought to the nearest hospital by good Samaritans or police. From there, they will be transferred to a hospital with more resources and may eventually move up through the pyramidal

structure of hospitals with increasing capabilities until reaching the one designated trauma centre in the country.

218. **Selemani, S., Mwakyusa, M.O., Bashiri, S., *et al*… (2024). "Are all referrals necessary?" Experiences and perceptions of maternity healthcare providers on emergency intrapartum referrals in Dar es Salaam, Tanzania. *PLoS One* Vol.19(2).**

Doi: 10.1371/journal.pone.0298103.

ABSTRACT

Background: Intrapartumcontinuity of care to reduce maternal morbidity and mortality relies heavily on a functional and effective referral system between tiers of care. Capacity building of providers in managing intrapartum referrals is expected to improve the efficiency of the referral system, but this does not always work in practice. This study explored the experiences and perceptions of maternity healthcare providers on emergency intrapartum referrals in Dar es Salaam, Tanzania. **Methods:** An exploratory qualitative study was conducted at Amana Regional Referral Hospital and Muhimbili National Hospital in Dar es Salaam. Maternity healthcare providers were purposively recruited based on cadre, working experience of more than three years in the maternity wards. An in-depth interview guide which involved questions and probes was used to conduct eleven interviews. Data was thematically analyzed. **Results:** Three major themes emerged, namely: 1) causes of referrals are beyond medical indications; 2) limited maternity healthcare provider capability at referring facilities; and 3) limited communication between referring and receiving facilities. According to maternity healthcare professionals, referrals were seen as a way to minimize blame and a clinical management tool to prevent difficulties. They advocated for more understanding of the skill set among maternity healthcare providers, but some had

negative perceptions towards performing their responsibilities**. Conclusions:** Skills gaps among maternity healthcare providers at referring hospitals influenced referral decision-making and service provision. There was hostility between referring and receiving hospitals. Capacity-strengthening strategies such as ongoing skills training and changes in attitudes toward referrals require improvements. The referring hospital should only consider referrals as a last resort after other case management has been completed.

219. Selemani, S., Mwakyusa, M.O., Bashiri, S., *et al*… (2024.) "Are all referrals necessary?" Experiences and perceptions of maternity healthcare providers on emergency intrapartum referrals in Dar es Salaam, Tanzania. *Plos one.* Vol. 19(2).

Doi: 10.1371/journal.pone.0298103.

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220. **Shayo, F., Sawe, H.R., Hyuha, G.M., *et al*… (2024). Clinical profile and outcomes of pediatric patients with acute seizures: a prospective cohort study at an urban emergency department of a tertiary hospital in Tanzania. *BMJ open* Vol.14(1).**

Doi: 10.1136/bmjopen2022069922.

ABSTRACT

Objective: Children with seizures require immediate and appropriate intervention in the emergency department (ED). This study describes the clinical profile and outcome of paediatric patients with seizures at the ED in a country with limited resources. **Design:** A prospective, observational cohort study of paediatric patients with seizure presenting to an ED conducted over a six-month period from 1 August 2019 to 31 January2020. **Setting:** The study was conducted at the ED of Muhimbili National Hospital, a level 1 trauma centre located in Dar es Salaam, Tanzania. Participants:

Paediatric patients aged 1 month to 14 years presenting at the ED with acute seizure, defined as any seizure occurring from 24 hours to 7 days prior to the visit, were included in this study. Patients were consecutively enrolled during times a research assistant was present in the department. Newborns, children with repeat visits or no signs of life on arrival were excluded. Outcome: The primary outcome was the proportion of paediatric patients presenting with seizures and their mortality rate; secondary outcome was risk factors for mortality. **Result:** During the study period, 1011 children were seen in the department, of whom 114 (11.3%) (95% CI 9.3% to 13.3%) presented with seizures. Median age was 24 months (IQR 9–60), 78.1% were under 5 years and 55.3% were males. The majority 76 (66.7%) of the patients presented with generalised seizures. Half 58 (50.9%) of patients presented with fever. Meningitis was the most common aetiology, diagnosed in 30 (26.3%). Overall mortality was 16.7% (95% CI 10.3% to 24.8%). Using negative log binominal analysis, fever (relative risk, RR 2.7), altered mental status (RR 21.1), hypoxia (RR 3.3), abnormal potassium (RR 2.4) and clinical diagnosis of meningitis (RR 3.4) were statistically significantly associated with mortality. **Conclusions:** Findings from this study revealed higher incidence of paediatric patients with seizures than that reported in high-income countries and other low-income and middle-income countries. The acuity of illness was high, with 16.7% mortality rate. The presence of fever, altered mental status, hypoxia, abnormal potassium levels and meningitis diagnosis were associated with higher risk of mortality. Further research is needed to develop interventions to improve outcomes paediatric patients with seizures in our setting.

221. Shayo, M.J., Samwel, B., Shadrack, D.M., *et al*… (2024). Drug repositioning identifies salvinorin A and deacetylgedunin (DCG) enriched plant extracts as novel inhibitors of Mpro, RBD–ACE2 and TMPRRS2 proteins. *RSC advances*. Vol.14 (29).

ABSTRACT

The coronavirus disease 2019 (COVID-19) has spread worldwide with severe health, social, and economic repercussions. Although vaccines have significantly reduced the severity of symptoms and deaths, alternative medications derived from natural products (NPs) are vital to further decrease fatalities, especially in regions with low vaccine uptake. When paired with the latest computational developments, NPs, which have been used to cure illnesses and infections for thousands of years, constitute a renewed resource for drug discovery. In the present report, a combination of computational and in vitro methods reveals the repositioning of NPs and identifies salvinorin A and deacetylgedunin (DCG) as having potential anti-SARS-CoV-2 activities. Salvinorin A was found both in silico and in vitro to inhibit both SARS-CoV-2 spike/host ACE2 protein interactions, consistent with blocking viral cell entry, and well as live virus replication. Plant extracts from Azadirachta indica and Cedrela odorata, which contain high levels of DCG, inhibited viral cell replication by targeting the main protease (Mpro) and/or inhibited viral cell entry by blocking the interaction between spike RBD–ACE2 protein at concentrations lower than salvinorin A. Our findings suggest that salvinorin A represent promising chemical starting points where further optimization may result in effective natural product-derived and potent anti-SARS-CoV-2 inhibitors to supplement vaccine efforts.

222. **Sheriff, F.G., Nguyen, S., Matuja, S. *et al*… (2024). Introduction of neurointerventional services, including mechanical thrombectomy, to a resource limited setting in Tanzania. *Journal of NeuroInterventional Surgery*.**

Doi: 10.1136/jnis-2024-022612.

ABSTRACT

We read the paper on ‘Human impact factor’with great interest and concur completely with the authors regarding the role of neuroendovascular providers in advancing care in underserved areas. 1 Although in the developed world there exist inequalities in access to mechanical thrombectomy geographically, and by race and gender, 2 3 these are dwarfed by the global disparities in accessibility to neurointerventionalists and neuroendovascular resources. 4 We also appreciate the efforts of the Society of Neurointerventional Surgery to address these gaps, in part by introducing the international mentorship program, pairing seasoned neurointerventional surgeons with practitioners in developing areas globally. 1 There are, however, important issues with this as a standalone approach when applied to areas where services are being developed afresh rather than improved. We appreciated fully this perspective during recent medical visits to Tanzania. This beautiful diverse country is the largest in East Africa with a population of approximately 69.1 million, according to the 2024 census. Over the past year, we visited Dar es Salaam twice, the commercial hub and largest metropolis, with the aim of undertaking a needs and readiness assessment for developing endovascular treatment for cerebrovascular diseases. We chose Tanzania based on previous experience; some of us hail from Tanzania or have visited the country for annual neurosurgical teaching conferences and hands-on workshops over the previous decade.

223. **Simai, B., Joshua, D., Ali, S., *et al*… (2024). A 20-year evidence-based experience of the evolving medicine regulation in Zanzibar. *Journal of Pharmaceutical Policy and Practice*. Vol. 17(1).**

Doi: 10.1080/20523211.2024.2421273.

ABSTRACT

Background: Access to medicine is crucial for the effective functioning of healthcare systems. A robust regulatory framework is necessary to ensure the safety, effectiveness, and availability. However, weak regulatory frameworks persist in many low- and middle-income countries, leasing to the circulation of falsified and substandard medicines as well as anti-competitive restrictions on registering poor-quality medicines, which poses a significant public health threat. This study evaluated the evolution of Zanzibar's medicine regulatory system over the past two decades and identified the key factors contributing to its success by elaborating on the Zanzibar Food and Drug Agency, seeking the expertise of regional, continental, and global experts to assess its regulatory capacity and maturity level. **Methods:** This study was conducted at the Zanzibar Food and Drug Agency (ZFDA) in Unguja, Zanzibar, using a retrospective cross-sectional review and qualitative approach. It thoroughly reviewed relevant regulatory documents, including Acts, policies, guidelines, and assessment reports. Data were collected using a standardised checklist and analysed to uncover patterns and insights regarding the evolution of Zanzibar's medicine regulatory system**.** **Results:** This study revealed substantial legal provisions, organisational development, strategic planning, and resource allocation improvements. Notable achievements include establishing a structured organisational framework, developing a comprehensive strategic plan, and implementing a Quality Management System (ISO 9001:2015 certified). The ZFDA also addressed human resource limitations by creating job descriptions and a staff scheme of service, enhancing financial resources through revised fee regulations and government support, and improving infrastructure with new office and laboratory facilities. **Conclusion:** Zanzibar's medicine regulations have evolved significantly, with marked regulatory capacity and infrastructure improvements. Future efforts should address the remaining challenges and foster collaboration with regional and international bodies to ensure the continued evolution and effectiveness of Zanzibar's medicine regulatory framework.

224. Simangwa, L.D., Åstrøm, A.N., Johansson, A., *et al*… (2024). Traditionally removed mandibular central incisors and oral health-related quality of life: A cross-sectional study among adolescents in Maasai populated areas, Northern Tanzania. *BMC Oral Health*. Vol.24; 1(324).

ABSTRACT

Background: The traditional removal of mandibular anterior teeth has been existing for many years in the Sub-Saharan African countries. This study aimed to assess the prevalence and sociodemographic distribution of traditionally removed mandibular central incisors (TRMCI) and its association with oral impact on daily performance (OIDP) among adolescents in Maasai populated areas in the Northern part of Tanzania. **Methods:** Using a two-stage cluster sample design, with schools as the primary sampling unit, 23 out of 66 eligible rural schools were randomly selected. From each selected school, one class, expected to contain adolescents aged 12–14 years, was identified. The students from these selected classes were invited to participate in the study. A total of 989 adolescents were invited and 906 (91.6%) accepted to participate and completed both an interview and a clinical oral examination. **Results:** Mean age was 13.4 years (12–17 years, SD 1.2) and 43.9% were males (n = 398). The participants from Longido district amounted to 47.1%. The Maasai group constituted 79.6% of the study participants. The frequencies of the participants missing at least one mandibular central incisor were 18.5%. Multivariable logistic regression revealed that adolescents from Longido district were more likely to report at least one TRMCI (OR = 2.5, 95% CI 1.4–3.3). Adolescents from non-Maasai group were less likely to have atleast one TRMCI compared to adolescents from Maasai ethnic group (OR = 0.02, 95% CI 0.002–0.15). Adolescents with at least one TRMCI were more likely to report impacts on OIDP (OR = 3.3, 95% CI 1.9–5.7) than those without TRMCI. Independent of the TRMCI status, adolescents from Longido district were

less likely than their counterparts to report oral impacts (OR = 0.4, 95% CI 0.2–0.6). Similarly, adolescents from non-Masaai group were more likely than their counterparts to report oral impacts (OR = 2.2, 95% CI 1.4–3.5). **Conclusion:** TRMCI is common among adolescents in the Maasai populated areas in the Northern part of Tanzania and strongly associated with the district of residence and Maasai ethnicity and has a negative impact on oral health related quality of life. There is a need for oral health education in the rural Maasai communities in Tanzania to increase awareness of the negative consequences of this practice.

225. Sirili, N., Kilonzi, M., Kiwango, G., *et al*… (2024). Knowledge of non-communicable diseases and access to healthcare services among adults before and during COVID-19 pandemic in rural Tanzania. *Frontiers in Public Health*. Vol. 12.

Doi: 10.3389/fpubh.2024.1342885.

ABSTRACT

Background: The COVID-19 pandemic significantly affected access to healthcare services, particularly among individuals living with Non-Communicable Diseases (NCDs) who require regular healthcare visits. Studies suggest that knowledge about a specific disease is closely linked to the ability to access services for that condition. In preparation for the future, we conducted the study to assess knowledge of NCDs and access to healthcare services among adults residing in rural areas before and during the COVID-19 pandemic. **Methods:** We conducted a community-based cross-sectional study in rural Tanzania in October 2022, a few months after the end of the third wave of the COVID-19 pandemic. A total of 689 community residents participated in the study. The level of knowledge of NCDs was assessed using an 11-item Likert questionnaire, which was later dichotomized into adequate and inadequate levels of

knowledge. In addition, access to healthcare was assessed before and during the pandemic. We summarized the results using descriptive statistics and logistic regression was applied to determine factors associated with adequate levels of knowledge of NCDs. All statistical tests were two-sided; a p-value <0.05 was considered statistically significant. All data analyses were performed using SPSS. **Results:** Among 689 participants, more than half 369 (55%) had adequate knowledge of whether a disease is NCD or not; specifically, 495 (73.8%), 465 (69.3%), and 349 (52%) knew that hypertension, diabetes mellitus, and stroke are NCDs while 424 (63.2%) know that UTI is not NCD. Of the interviewed participants, 75 (11.2%) had at least one NCD. During the COVID-19 pandemic the majority 57 (72.2%) accessed healthcare services from nearby health facilities followed by traditional healers 10 (12.7%) and community drug outlets 8 (10.1%). Residence and education level were found to be significantly associated with knowledge of NCDs among participants. **Conclusion:** The study revealed that the community has a moderate level of knowledge of NCDs, and during the COVID-19 pandemic outbreaks, people living with NCD (s) relied on nearby health facilities to obtain healthcare services. Health system preparedness and response to pandemics should take into account empowering the community members to understand that NCD care is continuously needed even during pandemic times. We further advocate for a qualitative study to explore contextual factors influencing the knowledge of NCDs and access to healthcare services beyond the big domains of education and residence.

226. **Sirili, N., Msami, K., Ruwaichi, T., *et al*… (2024). "If diagnosed early, you will be stressed and die…" drivers for breast cancer screening services uptake among women in Dar es Salaam. *PLOS Global Public Health*. Vol. 4(11).**

Doi: 10.1371/journal.pgph.0003390.

ABSTRACT

Worldwide, there has been an increase in the breast cancer mortality rate, with disproportionately high rates in low and middle-income countries. Addressing breast cancer starts with early detection through screening services. In Tanzania, despite being among countries with high rates of breast cancer, screening services uptake has remained low. This study aimed to explore the drivers for breast cancer screening among women accessing health care services at a specialized cancer treatment hospital in Dar es Salaam, Tanzania. We adopted an exploratory case study employing qualitative techniques to analyze the drivers for breast cancer screening among women in Dar es Salaam. We interviewed four groups of respondents: women with breast cancer attending cancer treatment clinics, young women and old women without breast cancer attending cancer screening units, and older women who do not show up for breast cancer screening. From analysis of the in-depth interviews and focus group discussions we found that the drivers for breast cancer screening operate at different levels; individual as a centre of making the decision to be screened, family as an attribute to decide uptake of screening, the society drivers, the healthcare providers related drivers and health facility related drivers. These attributes were found to influence women's decisions to screen, and the possibility of uptake of breast cancer screening was dependent on family and social motivation. In most instances, women were driven to utilize breast cancer screening when the services were readily available at their neighbouring health facilities. The findings from this study have enlightened that people's decision about utilizing breast cancer screening services is based not only on perceptions of their risk but also on fellow community members who have survived the disease, the experiences of breast cancer screening services from their networks and the performance of healthcare institutions in delivery of such services. The use of breast cancer survivors' support groups to promote breast cancer screening services is advocated from the findings of our study.

227. Sohal, K.S., Jeremiah, L., Okechi, U. *et al*… (2024). Self-medication for dental caries-associated toothache among dental outpatients attended at public health facilities in Dar es Salaam, Tanzania: A cross-sectional study. *Health Science Reports*. Vol7(9).

ABSTRACT

Background and aim: Self-medication is a common practice worldwide, and its prevalence ranges between 20% and 80% among patients suffering from dental pain. The socioeconomic status of an individual plays a key role in self-medication practice, especially sex and education level. This study aims to investigate the extent of self-medication practice for toothache due to dental caries among adults in Dar es Salaam, Tanzania. **Methods:** This was an analytical cross-sectional study carried out over 6 months. It included adult patients presenting with toothache in public dental clinics. A questionnaire captured information on demography, self-medication practice, the substance used for self-medication, duration of self-medication, and reason for self-medication. Univar ate analysis was carried out to assess factors associated with self-care remedies. The probability level of $\alpha < 0.05$ was selected for statistical significance. **Results:** A total of 420 participants took part in this survey with a majority (54.3%) being females. The ages of the participants ranged between 18 years and 79 years, with a mean age of 33.37 (SD = 12.64) years. Nearly all (98.5%) participants used some sort of self-prescribed remedies for managing toothache before attending a dental clinic for appropriate treatment. The sociodemographic status of the participants did not influence the practice of self-medication. **Conclusion:** About 98% of patients suffering from toothache in Tanzania practice self-medication, and it cuts across all social strata of the adult dental population

228. **Somi, J., Kikula, A.I., Ali, S., *et al*… (2024). Indications and Immediate Outcomes of Caesarean Section at Primary Health Care Facilities in Rural Tanzania. *Open Journal of Obstetrics and Gynecology.* Vol. 14(12).**

ABSTRACT

Objective: To determine the indications and immediate maternal and fetal outcomes of caesarean section performed at primary health facilities in 2020. **Design:** Descriptive cross-sectional study. **Setting:** Lushoto District Council is located in the northeastern in Tanga region, Tanzania. Participants All women who underwent caesarean section at primary health facilities from January to December 2020, 782 included in this study and 72 files were missing. **Main outcome Measures:** Indications and immediate maternal and fetal outcomes of caesarean section at primary health facilities. The difference in indications and outcomes of caesarean section between district hospital and upgraded health centres. **Results:** The commonest indications were obstructed labor 29.0%, previous scar(s) 19.9% and fetal distress 17.0%. Obstructed labour indication was more at the upgraded health centres. Most, 89% of women had no post-operative complications. The common maternal complications were hemorrhage 5.7%, transfusion 5.2%, prolonged stay 1.7%. Most babies were alive 95%, term 90% with Apgar score > 7 at 5 minutes 96% and 94% had birth weight ≥ 2500 g. There were no statistically significant differences in immediate maternal and fetal outcomes between health centres and district hospital. **Conclusions:** Obstructed labour was the commonest indication for caesarean section. The immediate maternal and fetal outcomes at the upgraded health centers were comparable to the district hospital level. Clinical audits of indications for caesarean section and prospective studies for late maternal and fetal outcomes of caesarean section performed at primary health facilities to be conducted.

229. **Suluba, E., Masaganya, J., Mbugi, E., *et al*… (2024). NKX2. 5 coding exons sequencing reveals novel non-synonymous mutations in patients with sporadic congenital heart diseases among the Tanzanian population. *Egyptian Journal of Medical Human Genetics.* Vol. 25(1).**

Doi: 10.1186/s43042-024-00557-8.

ABSTRACT

Background: The evolutionally conserved home box transcription factor NKX2-5 has been at the forefront in the field of cardiac biology, providing molecular insights into the mechanisms of cardiac development and disease. This homodomain transcription factor is a central regulator of cardiac development and is expressed in both the first and second heart fields (FHF and SHF). Mutations in the NKX2-5 gene have been linked to sporadic cases of congenital heart disease (CHD), making it a significant target for research and study. While several studies have been conducted on Caucasian populations, there is a dearth of knowledge on the effects of NKX2-5 gene mutations in other settings, underscoring the need for further investigation. Due to differences in geographical and ancestral origin, we hypothesize that mutations may vary across different populations. Understanding the genetic factors that cause CHD is essential for providing effective genetic counseling and developing strategies for risk reduction. Additionally, identification of NKX2-5 mutations in individuals with CHDs is crucial because patients with CHDs are at a higher risk of progressive conduction disease and sudden cardiac death, and genetic information is taken into consideration while making decisions regarding pacemakers and implantable cardiac defibrillators. To determine the risk of congenital heart disease among infants, we conducted a study where we sequenced the exon 1 and exon 2 of NKX 2.5 in patients with sporadic CHDs, with the aim of identifying mutations in the NKX2.5 gene. **Results:** In this study, a novel frame-shift disease-causing mutation was discovered in patients with atrial-ventricular

septal defect. The mutation, identified as c95_95 del A; cDNA.369–369 delA; g 369–369 delA, resulted in the substitution of phenylalanine to leucine (F295L), which in turn caused a truncated NKX2.5 protein. In addition, a non-synonymous mutation, g 316C > T; cDNA 316C > T leucine to arginine (L37R) substitution, was found in a patient with the tetralogy of Fallot, affecting protein function. Furthermore, a novel non-synonymous mutation identified as g 2295–2298; cDNA 755–758 delins AGGG was predicted by mutation taster to be disease-causing in a ventricular septal defect. It is worth noting that none of these mutations were found among the control subjects, highlighting their potential significance in the pathogenesis of these cardiac defects. **Conclusion:** Mutations in the NKX2.5 gene are associated with congenital heart diseases and provide molecular insight into the pathogenesis of congenital heart diseases. We recommend that patients with NKX2.5 mutations have periodic screening for cardiac conduction abnormalities and be evaluated for potential implanted cardiac defibrillators and pacemakers.

230. Swai, H.F., Moledina, S.M., Nsato, S.B., *et al*… (2024). Diagnostic delay in ankle and foot tuberculosis resulting in tuberculoma and tuberculous meningitis in a middle-aged female: A case report. *SAGE Open Medical Case Reports*. Vol.12.

Doi: 10.1177/2050313X241274223

ABSTRACT

A middle-aged woman presents with chronic foot arthritis which progressed to a non-healing ulcer, which was unresponsive to conventional antibiotics and debridement. She then developed cerebral manifestations and was empirically treated with antitubercular medications which led to healing of the ulcer. Unfortunately, delays in initiating treatment resulted in development of other extrapulmonary tuberculosis complications such as cerebral tuberculoma with tuberculous meningitis. She was

subsequently diagnosed with neurocysticercosis which continued to worsen during her hospital stay. She eventually succumbed to her illness due to the complications and a possible nosocomial infection. This case highlights the challenges with diagnosis of uncommon presentations of common diseases in an endemic area, leading to diagnostic delays and development of serious complications.

231. Thorgaard-Rasmussen, K., Alvesson, H.M., Pembe, A.B., *et al*… (2024) Women's and maternity care providers' perceptions of pain management during childbirth in hospitals in Southern Tanzania. *BMC Pregnancy and Childbirth*. Vol. 24(417).

Doi: 10.1186/s12884-024-06606-9

ABSTRACT

Background: The majority of women experience pain during childbirth. Offering and supporting women to use different methods for coping with pain is an essential competency for maternity care providers globally. Research suggests a gap between what women desire for pain management and what is available and provided in many low-and middle-income settings. The study aimed to understand how pain management is perceived by those involved: women experiencing childbirth and maternity care providers. Methods: Individual semi-structured interviews with women (n = 23), maternity care providers (n = 17) and focus group discussions (n = 4) with both providers and women were conducted in two hospitals in Southern Tanzania in 2021. Transcribed interviews were analysed using reflexive thematic analysis. Coding and analysis were supported by the software MAXQDA. **Results:** Three main themes were generated from the data. The first, 'pain management is multifaceted', describes how some providers and women perceived pain management as entailing various methods to manage pain. Providers perceived themselves as having a role in utilization

of pain management to varying degree. The second theme 'pain management is primarily a woman's task' highlights a perception of pain management as unnecessary, which appeared to link with some providers' perceptions of pain as natural and necessary for successful childbirth. Few women explicitly shared this perception. The third theme 'practice of pain management can be improved' illustrates how women and maternity care providers perceived current practices of pain management as suboptimal. According to providers, this is primarily due to contextual factors such as shortage of staff and poor ward infrastructure. **Conclusion:** Women's and maternity care providers' perceptions ranged from perceiving pain management as involving a combination of physiological, psychological and social aspects to perceive it as related with limited to no pain relief and/or support. While some women and providers had similar perceptions about pain management, other women also reported a dissonance between what they experienced and what they would have preferred. Efforts should be made to increase women's access to respectful pain management in Tanzania.

Keywords: Pain management, Tanzania Maternity care providers Labour pain Childbirth Midwifery

232. **Torokaa, P.R., Urio, L., Mwakalobo, A., *et al*… (2024). The prevalence of vertical transmission of human immunodeficiency virus and associated factors among exposed infants in Eastern Lake zone and Southern Highland of Tanzania: a cross-sectional study. *HIV Research & Clinical Practice*. Vol.25(1).**

Doi:10.1080/25787489.2024.2378575.

ABSTRACT

Background: Globally, the rate of antiretroviral therapy coverage for pregnant women living with human immunodeficiency virus (HIV) increased by 38% between 2010 and 2015 but only by 2% between 2016 and 2020. Objectives: We aimed to determine the

prevalence of vertical transmission of HIV among infants from mothers living with HIV and associated factors in the Eastern Lake Zone and Southern Highland of Tanzania from January to December 2022. **Methods:** This retrospective cross-sectional study extracted data from the Open Laboratory Data Repository database collected from January to December 2022 at 93 health facilities. A total of 1,411 infants exposed to HIV from the Mbeya (851), Songwe (304), and Mara regions (256) were enrolled. **Results:** The prevalence for vertical transmission of HIV was 2.48% (35/1411). We observed a non-significant difference in the prevalence of vertical transmission in children whose first test was done below six weeks of life (1.89%) and other age groups (2.52-2.62%) ($p < 0.917$). Children not given antiretroviral prophylaxis had eleven times higher odds of acquiring infection (AOR 11.39, 95% CI: 3.61–35.97). Mothers who were not on ART during pregnancy had three times the odds of transmitting HIV to their infants (AOR 3.03, 95%CI: 0.91–10.15). **Conclusions:** We found a low prevalence of vertical transmission of HIV compared to previous studies done in Tanzania. The use of ART prophylaxis for infants exposed to HIV is significantly associated with the low rate of HIV transmission.

233. **Tungu, M., Luoga, P., Anaeli, A. *et al*… (2024). Correlates associated with health insurance on cervical cancer screening in Tanzania: a comparison between the insured and uninsured women using demographic and health survey 2022. *BMC Health Services Research*. Vol. 24(1).**

ABSTRACT

Background: Cervical cancer is the most common cancer in women worldwide. This cancer affects more women in low- and middle-income countries (LMICs) including Tanzania. Economic losses related to cervical cancer can lead to a serious threat to collective financial well-being and increased risk for the households to catastrophic health expenditure. In most LMICs, out-of-pocket (OOP) payments are often necessary

for utilizing medical care and co-payments of health insurance to access some of the health services. This study aimed to assess the influence of health insurance among women on access to cervical cancer screening by comparing insured and non-insured women in Tanzania. **Methods:** This study used secondary data collected through cross-sectional design during the Tanzania Demographic and Health Survey 2022. The study analyzed the information from a total sample of 15,254 women. In the analysis, all data were weighted using individual women sample weight to account for complex sampling design and non-response rate. The analysis of this study used univariate, bivariate and multivariable logistic regression analysis models. **Results:** Our analysis revealed that only 7.01% of women were screened for cervical cancer. Health insurance coverage was statistically significant with the cervical cancer screening. This means that the insured women had higher odds than those uninsured women for both the crude model (COR 3.12; CI 2.46, 3.96) and adjusted models (AOR 1.75; CI 1.35, 2.27). Age, education level, currently engaging in income-generating jobs and those who visited the health facility at least once in 12 months influenced the cervical cancer screening for both crude and adjusted models. **Conclusion:** This study emphasizes the significance of various factors in cervical cancer screening in Tanzania. These factors include being covered by health insurance, socio-economic status and education. Health insurance coverage seems to be a predictor of accessing health services including screening for cervical cancer. Therefore, the government should take these factors, especially health insurance into account when formulating policies and making decisions to enhance access to cervical cancer screening for women in Tanzania including fasterning an on-going process of establishing a prepayment scheme of mandatory health insurance for all citizens.

234. Tungu, M., Saronga, H., Amani, P.J. (2024). Health-Related Quality of Life for the Insured and Non-Insured Elderly in Rural Tanzania: *A Cross-Sectional Study*. Vol.7(2).

Doi: 10.1186/1471-2458-13-863

ABSTRACT

Introduction: The growing number of elderlies in low—and middle-income countries is straining healthcare systems. Affordable health services are essential to prevent poor health outcomes and low quality of life. Health insurance can improve access to care and enhance the quality of life for elderly individuals. This study compares the quality of life of elderly individuals with and without health insurance. **Methods:** A household survey was conducted in the Nzega and Igunga districts in the Tabora region of Tanzania from 2017 to 2022. The survey used a multistage sampling method to select wards, villages in each district, and households with elderly residents. The European Quality of Life 5-dimension 3-level (EQ-5D-3L) instrument was used to assess health-related quality of life (HRQoL), including the EQ-5D descriptive system and the EQ visual analog scale (EQ VAS). Value sets from Zimbabwe were used to calculate HRQoL. The survey used crude and adjusted linear regression analyses to assess the relationship between HRQoL and HI by accounting for confounding factors. **Results:** A total of 1,899 elderly individuals aged 60 years and above participated in the study, with the majority (58%) falling in the 60- 69 age group. Among the participants, 45% were married, and only 44% had insurance coverage. The overall mean EQ-5D and EQ-VAS scores were slightly higher for the uninsured elderly (0.75 and 61.20) compared to the insured elderly (0.73 and 60.31). According to the linear crude model, there is a decrease in HRQoL among the uninsured compared to the insured. This trend was also observed in the adjusted model, although it was not statistically significant (p=0.052). **Conclusion:** Access to health insurance can significantly improve the HRQoL for elderly populations in Tanzania. These findings are crucial for policymakers. Extending health insurance coverage to vulnerable sub-populations like the elderly should be a priority, with targeted financial subsidies for HI premiums. This

initiative would be a significant step towards achieving universal health coverage in Tanzania, ensuring a higher quality of life for all citizens. Keywords: Rural, Tanzania, HRQoL, Health insurance, Elderly, and financial risk protection

235. **Tungu, M., Sirili, N., Frumence, G., *et al*… (2024). Health care prioritization process for the elderly in rural Tanzania under decentralized system: Prospects and challenges. *Plos one*. Vol. 19(6).**

Doi: 10.1371/journal.pone.0304243.

ABSTRACT

Introduction: Beginning the early 1990s, many countries globally adopted the third-generation health sector reforms with a focus of strengthening the primary health care system through community participation. On the contrary, three decades later, primary health care systems in many Low- and Middle-Income countries (LMICs) including Tanzania have remained weak. Specifically, priority setting for the vulnerable groups including the elderly have been weak. We aimed to analyse the prospects and challenges of the priority setting process for the elderly health care services following the 1990s health sector reforms in Tanzania. **Methods:** We conducted an exploratory case study on priority setting process for the elderly healthcare services in Igunga and Nzega Tanzania. We carried out 24 Key Informant Interviews (KIIs) with the positions of District medical officers, social welfare, Medical Officers in-charge (MOI), planning officers and health system information focal person. Additionally, we carried out two focus group discussions (FGDs), one from each district with six participants from each group. Participants for the FGDs were MOI, health secretary, representative members of Health Facility Governing Committee (HFGC) and Council Health Management Team (CHMT). Data were analyzed using the qualitative content analysis. **Results:** Two categories emerged from the analysis of the transcripts. These

were the prospects and challenges in priority setting for the elderly population under the decentralized health sector in rural Tanzania. The prospects included; the capacity of the LGAs on priority setting; existence of strategies used by LGAs; availability of teamwork spirit and the existence of guidelines for priority setting at LGAs. The challenges included difficulties of elderly identification, insufficient resources to implement the planned activities at the LGAs, unintegrated digitalized government health information tools or programs at the LGAs, interference of LGAs by the Central Government and low interest of stakeholders on elderly health care. **Conclusion:** This study highlights the prospects and challenges facing priority setting for elderly care at the centralized health system in rural Tanzania. From the results the process is well organized but faces some challenges which if not addressed jeopardized and has potential to continue affecting the priority setting. Addressing the challenges highlighted requires joint efforts from both the elderly population in the community, healthcare providers and decision makers across all levels of the health system. This study serves as an eye-opener and calls for a bigger study to get a comprehensive picture of priority setting of the elderly health care in Tanzania.

236. Tungu, M., Sirili, N., Frumence, G., *et al*… (2024). Health care prioritization process for the elderly in rural Tanzania under decentralized system: *prospects and challenges*.

Doi: 10.1371/journal.pone.0304243.

ABSTRACT

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study serves as an eye-opener and calls for a bigger study to get a comprehensive picture of priority setting of the elderly health care in Tanzania.

237. **Tungu, M., Sirili, N., Kagaigai, A., *et al*… (2024). Controversies in implementing the exemption policy for the elderly healthcare services in Tanzania: experiences from the priority setting process in two selected districts. *Cost Effectiveness and Resource Allocation*. Vol. 22(1).**

ABSTRACT

Health financing system in Tanzania changed in the early 1990s as a result of the introduction of cost-sharing policies by the 1990s health sector reforms. The reforms brought about user fees which have led to inequity in access to health care services and catastrophic health expenditure among the elderly. In efforts to reduce the inequity gap among vulnerable groups, in 1994, the government introduced an exemption and waiver policy. More than three decades later, inequity in health care services access has persisted with the elderly population being more affected. The latter poses questions on the implementation efficiency of the exemption policy. We aimed to assess the implementation of the exemption policy on access to health services among the elderly in Tanzania by learning from the experiences of the priority setting process in two districts of western Tanzania. An exploratory qualitative case study adopting Key informant interviews (KIIs) was used to collect data in Nzega and Igunga districts. The key informants involved the representatives of the planning team and decision makers from the community, health facility and district level. Information saturation was attained after the 24th interview and thus data collection ended. The content analysis approach was used to analyse the data. Although there is a designated office that deals with exemptions for the elderly in health facilities, there are challenges in accessing health services. The challenges include insufficient drugs, some laboratory tests not covered by the exemption, a lengthy process to access service, poor financial

mechanisms for exempted services, inadequate information and clarity of the exemption categories, and limited to no involvement of different stakeholders in the exemption process. The exemption policy was introduced to help disadvantaged groups, including the elderly. However, its implementation encountered challenges which burden both the elderly and the health facilities. Its implementation has thus become a controversy to its initial aim that was to relieve the elderly from high healthcare costs. Revisiting the policy through a thorough stakeholders' engagement and establishing alternative financing of the exemption policy are recommended.

238. **Ulomi, C., Ngarashi, D., Dionis, I., *et al*… (2024). Serum uric acid levels as a biomarker for perinatal outcomes among mothers with pre-eclampsia in Tanzania. *East Africa Medical Journal.* Vol. 101 (6).**

ABSTRACT

Background: Preeclampsia is one of the hypertensive disorders of pregnancy with significantly high morbidity and mortality to both mother and fetus. Preeclampsia is associated with high Uric acid, yet its utility in predicting the perinatal outcome is still controversial. Therefore, this study was done to determine the utility of serum uric acid levels as a biomarker for perinatal outcomes among pregnant mothers with pre-eclampsia in Tanzania. **Methods:** A Hospital-based cross-sectional study was conducted between April and July 2020 to assess the utility of uric acid as a biomarker for perinatal outcomes in Tanzania. A total of 268 mothers were recruited consecutively soon after delivery. A checklist was used to document the mothers' and neonates' demographic and clinical characteristics, uric acid levels, and adverse neonatal birth outcomes. Analysis was done using the statistical package for social sciences (SPSS) version 23. Data were summarized using frequency and percentages for categorical variables and mean and standard deviation for continuous variables. Binary logistic regression was used to determine factors associated with poor perinatal

outcomes. AP value of< 0.05 was considered statistically significant. **Results:** Out of 268 mothers, 211 (78.7%) had raised serum uric acid, whereas an overall mean (±SD) serum uric acid level was 0.42±0.09 mmol/L. The magnitude of adverse perinatal outcomes was 51 (19%) stillbirth, 184 (68.7%) low birth weight, 33 (12.3%) neonatal intensive care unit (NICU) admission, 72 (26.9%) low Apgar score, and 190 (70.9%) for preterm delivery. Pre-eclamptic pregnant women with serum uric acid levels< 0.35 mmol/L were more likely to have good perinatal outcomes and the difference was statistically significant, OR (0.39 (0.18–0.80) 0.011)**. Conclusion:** Serum uric acid levels can predict perinatal outcomes among pre-eclamptic pregnant women. Further study is recommended to assess the sensitivity and specificity of uric acid levels as a biomarker for perinatal outcomes.

239. **Van Puijenbroek, E., Barry, A., Khaemba, C., *et al*… (2024). Short-Term Training, a Useful Approach for Sustainable Pharmacovigilance Knowledge Development in Tanzania, Kenya, Ethiopia and Rwanda. *Drug Safety*. Vol. 47(12).**

ABSTRACT

Continuous professional development among stakeholders involved in drug safety monitoring and surveillance is imperative in strengthening pharmacovigilance (PV) systems. The “Pharmacovigilance infrastructure and post-marketing surveillance system capacity building for regional medicine regulatory harmonization in East Africa” (PROFORMA) project aims to enhance the national PV infrastructure, post-marketing surveillance systems and clinical trial regulatory capabilities in Ethiopia, Tanzania, Kenya and Rwanda. To achieve this, training, including short-term training (STT) activities, at various levels is required. This article aims to describe the experiences of the authors during the development and implementation of STT in an attempt to improve the PV training landscape of these countries. To identify gaps, a baseline assessment of PV teaching and practices at the national medicines regulatory

authorities (NMRAs) and medical universities was conducted. Five successive training sessions, tailored to each country's specific needs and regulatory environments, were conducted; three focusing on fundamental concepts in PV and two dedicated to training-of-trainers courses. The training targeted staff from PV units of the NMRAs and medical universities. Enabling participation from all four countries in the same training fostered cross-country learning and collaboration. The contribution of STT to university education and the operational methodologies within NMRAs are explored, showcasing the impact on knowledge transfer and skill development in each country. In conclusion, by investing strategically in STT activities and fostering partnerships with academic institutions and NMRAs, we demonstrated a sustainable approach to PV capacity strengthening in resource-limited settings. The success of this model underscores its potential for adoption and replication across the African continent, offering a valuable framework for strengthening drug safety regulation and ultimately protecting public health.

240. **Vuhahula, E., Kimambo, A.H., Ndayisaba, M.C., *et al*… (2024). Expert breast cancer strat4 assay using fine-needle aspiration biopsy samples in a resource-constrained setting: A prospective diagnostic accuracy study. *The Lancet oncology*. Vol.25(11).**

ABSTRACT

Background: Use of fine-needle aspiration biopsy (FNAB) specimens on Xpert Breast Cancer STRAT4 Assay (STRAT4; Cepheid, Sunnyvale, CA, USA), a CE-marked in-vitro diagnostic medical device, could potentially increase access to breast cancer biomarker testing in resource-constrained settings. We aimed to assess the performance of a research use-only version of STRAT4 using FNAB specimens in Tanzania. Methods: In this prospective diagnostic accuracy study, patients aged 18 years or older with palpable breast masses presenting to the FNAB Clinic at Muhimbili

National Hospital (Dar es Salaam, Tanzania) were recruited consecutively. Patients who were pregnant, lactating, or had a previous diagnosis of breast cancer were excluded. STRAT4 testing was performed on off-label FNAB samples using four protocols: the 1 × protocol (using the standard lysate method) on FNAB smears (1 × FNAB), quick lysis and Maui protocols (both on FNAB smears), and the 1 × protocol on formalin-fixed paraffin-embedded (FFPE) cell block material (1 × cell block). For 1 × FNAB and 1 × cell block, tissue was processed using FFPE lysis reagent, incubated at 80°C with proteinase K, and followed by addition of 95% or higher ethanol. Quick lysis was processed using FFPE lysis reagent and 95% or higher ethanol, whereas Maui was processed using a proprietary research-use only lysis reagent. The primary outcomes were overall concordance, sensitivity, specificity, and area under the receiver operating characteristic curve (AUC) of STRAT4 as compared with immunohistochemistry or immunohistochemistry plus fluorescence in-situ hybridisation performed on cell blocks using clinically validated protocols in a Clinical Laboratory Improvement Amendments-accredited laboratory at the University of California, San Francisco (San Francisco, CA, USA). **Findings:** Between Nov 29, 2017, and Dec 17, 2020, 208 patients were enrolled. Of 208 cases, 51 (25%) were excluded from analysis because of insufficient tissue in the cell block or absent cell blocks, leaving 157 participants (all female) for analysis. For oestrogen receptor, 1 × FNAB had the best performance, with an overall concordance of 95% (95% CI 90–100), sensitivity of 94% (85–100), specificity of 97% (90–100), and AUC of 0•96 (0•81−1•00). For progesterone receptor, 1 × cell block had the best overall performance (overall concordance 89% [95% CI 84–95], sensitivity 91% [82–99], and specificity 89% [81–97], with an AUC of 0•93 [0•89−0•99]) and 1 × FNAB performed the best among the smear protocols, with a concordance of 84% (95% CI 74–93), sensitivity of 63% (43–82), specificity of 97% (92–100), and AUC of 0•91 (0•72−0•97). For HER2, Maui had the highest agreement, with an overall concordance of 93% (95% CI 89–98), sensitivity of 96% (88–100), specificity of 92% (87–98), and

AUC of 0•95 (0•98–1•00). For Ki67, Maui had the best performance of smear protocols, with a concordance of 73% (95% CI 64–82), sensitivity of 70% (58–81), specificity of 81% (66–96), and AUC of 0•80 (0•54−0•82). Interpretation: Processing FNAB samples with STRAT4 is feasible in Tanzania, and performance for the oestrogen receptor is robust. Further optimisation of STRAT4 for FNAB has the potential to improve timely access to breast cancer diagnostics in resource-constrained settings. **Funding:** US National Institutes of Health; UCSF Global Cancer Program, Helen Diller Family Comprehensive Cancer Center; UCSF Department of Pathology; and Cepheid.

241. **Wangwe, P.J., (2024). Radiological accuracy in locating a migrated IUD from the uterine cavity. *South Sudan Medical Journal*. Vol. 17(3).**

ABSTRACT

The Intra Uterine Device (IUD) is a safe and common form of contraception. Locating a lost IUD following silent perforation of the uterus either during or after IUD insertion is challenging. Locating the IUD using radiological investigation is straightforward. However, the use of a series of radiological investigations which brings the same management outcome is controversial in terms of cost. This is a report of a rare case in which several radiological investigations were conducted following IUD migration from the uterine cavity. The patient presented with lower abdominal pain and dyspareunia for oneyear post IUD insertion. Plain pelvic X-ray has less diagnostic accuracy in locating a migrated IUD compared to pelvic ultrasound and pelvic Computer Tomography (CT). Although it is cheap and can be done in low resource areas where there is minimal health investment it should be used as a preliminary investigation in case pelvic ultrasound is not available. This case report shows the important role of different imaging modalities, depending on cost, infrastructure,

availability of radiological expertise, and the timely availability of endoscopic services, in diagnosing and managing a displaced IUD compared to open surgery.

242. **Wangwe, P.J., Awadh, N., Angelus, M. (2024). Intrauterine device (IUD) migration to the fallopian tube: a rare location for a translocated IUD with no visceral injury.** ***Contraception and Reproductive Medicine*****. Vol. 9(1).**

Dio:10.1186/s40834024002788.

ABSTRACT

Background: Loss of Intra Uterine Device (IUD) following silent perforation of the uterus either during or after IUD insertion is an uncommon finding due to a lack of immediate follow-up. We report a rare case in which uterine perforation following the migration of IUD to the right fallopian tube without visceral injury. The patient presented with lower abdominal pain and pain during sex for one year since IUD insertion. On examination, we noted tenderness on the right suprapubic region and on speculum examination, no IUD thread was seen. A radiological pelvic examination showed an empty uterus without an IUD. Laparotomy and retrieval of migrated IUD was done followed by repair of perforated uterus. **Conclusion:** Migrated IUD with silent uterine perforation without visceral injury is a distressing clinical condition both to the patient and the clinician. This case is reported to increase awareness in doing immediate vaginal examination and pelvic ultrasound post-IUD insertion.

243. Williams, E.V., Goranitis, I., Oppong, R., ***et al*****… (2024). A cost-effectiveness analysis of early detection and bundled treatment of postpartum hemorrhage alongside the E-MOTIVE trial.** ***Nature Medicine*****.**

ABSTRACT

Timely detection and treatment of postpartum hemorrhage (PPH) are crucial to prevent complications or death. A calibrated blood-collection drape can help provide objective, accurate and early diagnosis of PPH, and a treatment bundle can address delays or inconsistencies in the use of effective interventions. Here we conducted an economic evaluation alongside the E-MOTIVE trial, an international, parallel cluster-randomized trial with a baseline control phase involving 210,132 women undergoing vaginal delivery across 78 secondary-level hospitals in Kenya, Nigeria, South Africa and Tanzania. We aimed to assess the cost-effectiveness of the E-MOTIVE intervention, which included a calibrated blood-collection drape for early detection of PPH and a bundle of first-response treatments (uterine massage, oxytocic drugs, tranexamic acid, intravenous fluids, examination and escalation), compared with usual care. We used multilevel modeling to estimate incremental cost-effectiveness ratios from the perspective of the public healthcare system for outcomes of cost per severe PPH (blood loss ≥1,000 ml) avoided and cost per disability-adjusted life-year averted. Our findings suggest that the use of a calibrated blood-collection drape for early detection of PPH and bundled first-response treatment is cost-effective and should be perceived by decision-makers as a worthwhile use of healthcare budgets. ClinicalTrials.gov identifier: NCT04341662.

244. **Williams, E.V., Goranitis, I., Oppong, R., *et al*… (2024). A cost-effectiveness analysis of early detection and bundled treatment of postpartum hemorrhage alongside the E-MOTIVE trial. *Nature Medicine*. Vol. 30(8).**

ABSTRACT

Timely detection and treatment of postpartum hemorrhage (PPH) are crucial to prevent complications or death. A calibrated blood-collection drape can help provide objective, accurate and early diagnosis of PPH, and a treatment bundle can address delays or inconsistencies in the use of effective interventions. Here we conducted an economic

evaluation alongside the E-MOTIVE trial, an international, parallel cluster-randomized trial with a baseline control phase involving 210,132 women undergoing vaginal delivery across 78 secondary-level hospitals in Kenya, Nigeria, South Africa and Tanzania. We aimed to assess the cost-effectiveness of the E-MOTIVE intervention, which included a calibrated blood-collection drape for early detection of PPH and a bundle of first-response treatments (uterine massage, oxytocic drugs, tranexamic acid, intravenous fluids, examination and escalation), compared with usual care. We used multilevel modeling to estimate incremental cost-effectiveness ratios from the perspective of the public healthcare system for outcomes of cost per severe PPH (blood loss ≥1,000 ml) avoided and cost per disability-adjusted life-year averted. Our findings suggest that the use of a calibrated blood-collection drape for early detection of PPH and bundled first-response treatment is cost-effective and should be perceived by decision-makers as a worthwhile use of healthcare budgets. ClinicalTrials.gov identifier: NCT04341662.

245. **Wilmshurst, J.M., Albert, D.V., Doja, A.*, et al*… (2024). Report from the child neurology education and training workshop at the International Child Neurology Congress 2024: Expert's addressing the training gap. *European Journal of Paediatric Neurology*. Vol. 53.**

Doi: 10.1016/j.ejpn.2024.10.004.

ABSTRACT

This report summarizes the key findings of a workshop undertaken at the International Child Neurology Congress in 2024 by child neurologists with expertise in training education and invested colleagues. The workshop aimed to explore global issues which have impact on access to child neurology training. The major findings supported a great need for more training programs globally, that consensus is needed for the

minimum standards of training, and that training programs can be strengthened via global health partnerships especially with collaborations from regions with more available resources. The group concurred that the phenomena of 'neurophobia' amongst general paediatricians and medical trainees, was a reality, and creates barriers both working with paediatric colleagues, as well as recruiting specialists to the field. Optimal teaching practices for child neurology should include the expansion of learning through global partnerships and virtual educational resources. Measures must be put into place for fledgling training programs, to support colleagues in less resourced settings and to avoid their burn-out. Collegial and collaborative work is essential to support the future of child neurology across the globe, both to reach the current capacity needs but also to meet the necessary growth in the field.

246. Xu, X., Liang, D., Mpembeni, R., *et al*… (2024). The readiness of malaria services and uptake of intermittent preventive treatment in pregnancy in six sub-Saharan countries. *Journal of Global Health*. Vol. 14.

Doi: 10.7189/jogh.14.04112.

ABSTRACT

Background: Malaria infection during pregnancy is associated with an increased risk of maternal death, as well as adverse birth outcomes. Intermittent preventive treatment in pregnancy with sulfadoxine-pyrimethamine (IPTp-SP) is known to improve pregnancy outcomes. However, the coverage of IPTp-SP in antenatal care (ANC) in sub-Saharan Africa remains well below the target. This study aims to estimate to what extent malaria service readiness affects the uptake of IPTp-SP during ANC visits in sub-Saharan African countries. **Methods:** This study included 3267 pregnant women attending ANC for the first time and 2797 pregnant women who had attended ANC more than a month ago in six sub-Saharan African countries. The readiness of malaria

services at each institution includes four indicators: the presence of IPTp-SP guidelines, SP availability, integration of IPTp-SP service into ANC, and provider training on IPTp-SP. The outcome variable indicates whether a pregnant woman received IPTp-SP at her current ANC visit. A modified Poisson regression model estimated the associations between malaria service readiness and IPTp-SP uptake for women eligible for the first and subsequent doses. **Results:** For women eligible for their first dose, visiting an institution with available SP was associated with an increased probability of receiving IPTp-SP (risk ratio (RR) = 1.43; 95% confidence interval (CI) = 1.22 to 1.67, P < 0.001). For women who were eligible for their next dose, the availability of SP (RR = 1.17; 95% CI = 1.04 to 1.32, P = 0.008) and integration of IPTp-SP service into ANC (RR = 1.82; 95% CI = 1.21 to 2.74, P = 0.004) in the institution were associated with increased likelihood of IPTp-SP uptake. Counterfactual predictions indicated that enhanced provider training could boost IPTp-SP uptake in high-uptake countries, while better SP availability and IPTp-SP integration into ANC would significantly impact low-uptake countries. Conclusions: For better IPTp-SP coverage, strategies should be customised. High uptake countries should focus on provider training, while low uptake ones should ensure IPTp-SP availability and service integration.

247. Yamba, K., Mudenda, S., Mpabalwani, E., *et al*… (2024). Antibiotic prescribing patterns and carriage of antibiotic-resistant Escherichia coli and Enterococcus species in healthy individuals from selected communities in Lusaka and Ndola districts, Zambia. *JAC-Antimicrobial Resistance*. Vol. 6(2).

Doi: 10.1093/jacamr/dlae027.

ABSTRACT

Objectives: This study assessed antibiotic prescribing patterns in primary healthcare facilities and antimicrobial resistance (AMR) profiles of commensal Escherichia coli and enterococci isolated from pregnant women and children under 5 years of age. **Materials and methods:** This cross-sectional study was conducted in Lusaka and Ndola districts of Zambia. Prescription pattern data were obtained from hospital pharmacies. Identification and antimicrobial susceptibility profiles of E. coli and enterococci were determined by conventional methods, while confirmation of both pathogens and AMR genes were determined by PCR. Data were analysed using WHONET and SPSS version 25.0. **Results:** Most prescribed antibiotics at the primary healthcare facilities belonged to the Access group of the WHO Access, Watch and Reserve (AWaRe) classification. All the primary healthcare facilities adhered to the aWaRe framework of ≥60% prescribed antibiotics belonging to the Access group. However, resistance was highest in the Access group of antibiotics. E. coli resistance to ampicillin ranged from 71% to 77% and to co-trimoxazole from 74% to 80%, while enterococcal resistance to tetracycline was 59%–64%. MDR was highest in E. coli (75%) isolates, while XDR was highest in enterococcal isolates (97%). The identified AMR genes in E. coli included blaCTX-M, sul2 and qnrA, while those of enterococci included erm (B), erm(C) and erm (A). **Conclusions:** Resistance was highest in the prescribed WHO Access group of antibiotics. These findings highlight the need to use local susceptibility data to formulate country-specific treatment guidelines in line with WHO AWaRe classification and enforce regulations that prohibit easy access to antibiotics.

248. Yussuph, Z.H., Alwy Al-beity, F.M. (2024). Shared decision-making on the mode of delivery following a prior cesarean delivery in Dar es Salaam, Tanzania. *Plos One*. Vol. 18(10).

Doi: 10.1371/journal.pone.0291809.

ABSTRACT

Background: Shared decision-making between clinicians and pregnant women with prior cesarean on the subsequent mode of delivery improves trial of labor rates, and reduces the number of repeat cesarean sections and their related complications. However, this practice is insufficient worldwide and the factors influencing it are still unknown. The study aimed at determining the proportion of pregnant women involved in shared decision-making and its associated factors in Dar es Salaam. **Methods:** A cross-sectional analytical study among 350 pregnant women with one prior cesarean section. Data was collected using a structured questionnaire and SPSS 23 was used for analysis. A score of 80 or higher on the nine-item Shared Decision-Making Questionnaire (SDM-Q9) was used to calculate the proportion of women, and the associated factors were obtained using a logistic regression model. P value of < 0.05 was considered significant. Results: The proportion of pregnant women involved in shared decision making was 38%. Factors that were significantly associated with sharing decision making were; having low level of education (AOR 0.55 95% CI 0.33–0.91), being married/having partner (AOR 2.58 95% CI 1.43–4.63), having a companion who had active participation (AOR 3.31 95% CI 1.03–10.6) and being familiar with the clinician (AOR 5.01 95% CI 1.30–19.2). Conclusion: To promote practice of shared decision making in our setting, encouragement of socially vulnerable pregnant women's participation in decision-making by health care professionals, encouragement of companion participation during antenatal care and promotion of personal continuity of care to improve familiarity to clinicians are needed.

249. Zacharia, A., Makene, T., Haule, S., *et al*… (2024). Urogenital schistosomiasis among adult male population in an endemic area of southern Tanzania: a descriptive cross-sectional study. *BMJ open*. Vol. 14(6).

Doi: 10.1136/bmjopen-2023-079690.

ABSTRACT

Background: Urogenital schistosomiasis (UGS) caused by Schistosoma haematobium is endemic in Southern Tanzania. The disease has significant implications for both socioeconomic and public health. Because infections with S. haematobium usually peak in childhood, the majority of studies have concentrated on school-aged children leaving other groups such as males which might be continuous reservoir of infection transmission. However, despite its chronic consequences in the male population, the disease has received insufficient attention, especially in sub-Saharan Africa. This study was conducted to describe the previous and current schistosomiasis status among adult males living in high-endemic areas of southern Tanzania **Design, setting and participants:** A descriptive cross-sectional study was employed to gather data on the prevalence of UGS among adult men residing at schistosomiasis endemic in the Mtama District Council. Quantitative methods of data collection which included questionnaire and laboratory procedures were used. **Results:** Out of 245 participants, macrohaematuria and microhaematuria were found in 12 (4.9%, 95% CI 2.4% to 7.8%) and 66 (26.9%, 95% CI 21.6% to 32.7%) participants, respectively. S. haematobium ova were recovered from the urine samples of 54 (22.0%, 95% CI 16.7% to 27.3%) participants. The median intensity of infection was 20 eggs per 10 mL of urine ranging from 1 to 201 eggs per 10 mL of urine (IQR) 60.5). Out of 245 participants 33 (13.5% 95% CI 9.0% to 17.6%) had light intensity of infection and 21 (38.9%, 95% CI; 25.0% to 52.5%) had heavy intensity of infection. Overall, the prevalence of heavy intensity of infection was 8.6% (95% CI 4.9% to 12.6%). The prevalence and intensity of UGS varied significantly by age, marital status and village of residence. **Conclusion:** This study sheds light on the prevalence of UGS among adult males in endemic areas of southern Tanzania. The results highlight the urgent need for comprehensive intervention strategies to address the burden of the disease.

250. **Zephania, S.A, Fussi, O.C., Kahinga, A.A. (2024). Knowledge and practices of epistaxis in Eastern Tanzania: A cross-sectional study of an emergency in otorhinolaryngology.** ***African Journal of Emergency Medicine*****. Vol.14(2).**

Doi: 10.1016/j.afjem.2024.03.002.

ABSTRACT

Introduction: It's approximated that 60% of the population globally experience epistaxis during lifetime. Despite epistaxis being prevalent in Tanzania, there are limited studies that have explored experience of participants on epistaxis. This study aims to determine knowledge on the causes, first aid management and practices of epistaxis among patients attending a health facility in Eastern Tanzania. **Methods:** A descriptive cross-sectional study was conducted where 371 participants aged 15 years and above were interviewed using structured questionnaires. Data was analyzed using Statistical Package of Social Sciences version 23. Chi-square tests were performed and a p-value <0.05 was considered to be statistically significant. **Results:** About two-thirds (60.9%) of the study participants had good knowledge of the causes of epistaxis. Majority of participants knew excessive nose manipulation (95.1%) to be the commonest cause of epistaxis and the least cause mentioned was chronic liver disease (24.8%). On the other hand, 77.6% of the participants had good knowledge while 22.4% had poor knowledge regarding first aid management of epistaxis. In this study, 328(88.4%) participants knew pressing the nose could stop epistaxis, while 164(44.2%) knew the best position to stop epistaxis and that is to tilt the head forward and those who had history of epistaxis, 150 (73.2%) out of 205 pinched the nose as the first aid. Similarly, 133(35.8%) participants thought cessation of smoking has effect on decreasing the occurrence of epistaxis. A significant association was noted between knowledge of first aid management of epistaxis and some socio-demographic

characteristics such as age and educational level. There was also a significant association between knowledge of the causes of epistaxis and educational level. **Conclusion:** Majority of the participants had good knowledge of the causes and first aid management of epistaxis.

251. **Zhu, Y., He, C., Bachwenkizi, J., *et al*… (2024). Burden of infant mortality associated with flood in 37 African countries. *Nature Communications*. Vol. 15(1).**

ABSTRACT

Floods are becoming more frequent and severe in the context of climate change, with major impacts on human health. However, their effect on infant mortality remains unknown, particularly in low- and middle-income countries. We conducted a sibling-matched case-control study using individual-level data from Demographic and Health Surveys in Africa during 1990–2020. Individual flood experience was determined by matching the residential coordinates with flood events from the Dartmouth Flood Observatory database. Using data from 514,760 new-born's, we found increased risks of infant mortality associated with flood exposure across multiple periods, with the risks remaining elevated for up to four years after the flood event. Overall, flood exposure was associated with 3.42 infant deaths per 1000 births in Africa from 2000 to 2020, approximately 1.7 times the burden associated with life-period exposure. This multi-country study in Africa provides novel evidence that flood events may increase infant mortality risk and burden, even over years after exposure.

CHAPTER TWO

THESIS AND DISSERTATIONS

1. **Abdalla, A.S. (2024). Prevalence of malnutrition and associated factors among patients undergoing hemodialysis at Mnazi Mmoja Hospital – Zanzibar, Tanzania. Muhimbili University of Health and Allied Science.**

ABSTRACT

Background: Malnutrition is common among patients undergoing maintenance hemodialysis. It is associated with increased hospitalization, cardiovascular complications, and reduced quality of life. Therefore, it is important to diagnose malnutrition earlier to enhance timely and adequate nutritional support, and intervention, and help maintain the health and wellness of the patient. The study was conducted to evaluate the nutritional status and associated factors among patients undergoing hemodialysis at Mnazi Mmoja Hospital in Zanzibar. **Methodology:** This was a cross-sectional study employing a quantitative approach to examine the nutritional status of 136 Chronic Kidney Disease (CKD) dialysis patients. The participants were recruited using a convenient sampling method, and data were collected using a researcher-administered semi-structured questionnaire. To assess nutritional status, BMI-WHO categories and the Subjective Global Assessment (SGA) tool were employed. The data analysis was conducted using the Statistical Package for the Social Sciences (SPSS) version 26. Clinical characteristics and nutritional status were presented using statistical tables and figures. Factors associated with nutritional status were assessed using a Chi-square test with a P-value set at 0.05 **Result:** A total of 136 hemodialysis patients in the study. The mean age of all participants was 45 ± 12 years. Most of the participants were males n=69 (50.7%), married n=94 (69.1%), about n=67 (49.3%) had secondary education, and n=84 (61.8%) resided in the urban

area. Nearly half n=59 (43.4%) of participants were diagnosed with CKD in less than a year whereby, n=68, (50%) of participants had been on hemodialysis for less than 12 months, and the majority n=131 (96.3%) were doing hemodialysis twice a week. According to WHO- BMI categories, 28(20.6%) [95%CI (47-63.9)] of the participants were underweight, 34(25%) [95%CI (34-56)] were overweight and14(10.3%)[95%CI(11-29)]were obese. Using SGA, malnutrition was present that overall malnutrition was n=82(60.3%) [95%CI (58.9-68.1)], where n=67 (81.7%) [95% CI (71.9- 88.6)] had moderate malnutrition and n=15 (18.3 %) [95/% CI (11.4-28.0)]-had severe malnutrition. On univariate logistic regression analysis, dialysis access, duration of dialysis, and duration of CKD were associated with malnutrition. **Conclusion and recommendation:** Malnutrition was prevalent in over two-thirds of the participants included in the study. Based on these findings, it is recommended to conduct regular nutritional screenings for malnutrition among hemodialysis patients and provide timely dietary education and support to enhance their nutritional status. Additionally, a comprehensive study should be conducted to assess patients' adherence to nutritional guidelines and identify challenges faced by healthcare providers in meeting the nutritional needs of their clients.

2. **Adam, A. (2024). Assessing awareness, attitude, and practices towards spontaneous reporting of adverse drug events together with its perceived barriers among clients attending community pharmacies in Dar es Salaam. Muhimbili University of Health and Allied Sciences.**

ABSTRACT

Background: Adverse drug events (ADEs) represent a pressing public health concern, necessitating vigilant surveillance for timely identification and prevention. Spontaneous reporting, a vital aspect of ADE monitoring, remains insufficiently explored, particularly among patients who attended community pharmacies. ADEs

reporting within community pharmacies is crucial in improving medication safety and patient care. **Aim:** The primary objective is to assess the levels of awareness, attitude, and practice concerning the spontaneous reporting of ADEs among patients attending community pharmacies in Dar es Salaam. **Methodology:** A cross-sectional survey was conducted among community pharmacy patients to assess their awareness, attitudes, and practices regarding spontaneous ADE reporting. Structured questionnaires were used to gather data on ADE awareness, pharmacovigilance, experiences with adverse drug events, and reporting behaviors. Perceived barriers to reporting were also identified. Descriptive statistics were applied to analyze the data, highlighting key trends and gaps. **Results:** The study found that 49% of participants were aware of adverse drug events (ADEs), primarily through social media, while only 12% had heard of pharmacovigilance. Among the patients, 19% had experienced an Adverse Drug Event (ADR), with 71% of these cases being reported, mainly to pharmacists. A significant majority (96%) acknowledged the importance of ADE reporting, reflecting a positive attitude. Common barriers to reporting included a lack of knowledge of ADE recognition and reporting procedures. **Conclusion**: This study reveals significant gaps in awareness and practices regarding ADE reporting among community pharmacy patients. Major barriers include a lack of awareness and insufficient knowledge about reporting procedures. Despite positive attitudes towards ADE reporting, practical barriers such as reporting complexity and confidentiality concerns hinder participation. Enhancing patient education, simplifying reporting processes, and ensuring confidentiality are crucial to improving ADE reporting practices and patient safety.

3. **Adjei, B.T. (2024). The prevalence, associated factors, and complications of peri-implant femur fracture following retrograde intramedullary nailing at Muhimbili Orthopedic Institute. Muhimbili University of Health and Allied Sciences.**

ABSTRACT

Introduction: Peri-implant femur fracture is a likely increasing entity in orthopedic traumatology. However, the prevalence, associated factors, and anticipated complications for peri-implant femoral fractures following retrograde intramedullary nail at Muhimbili Orthopedic Institute are not evident. The main goal of this study was to determine the prevalence, associated factors, and complications among patients who developed peri-implant femur fracture following retrograde intramedullary nailing at MOI - January 2008 to December 2022. **Method:** The study design was a retrospective, descriptive cross-sectional study and employed the use of secondary data from the SIGN database. The MUHAS Institutional Ethical Review Board committee (IRB) was consulted for approval and ethical clearance. Patients were identified from the SIGN database (those with femur fractures, those receiving antegrade IM nailing and those receiving retrograde IM nailing). Medical records and radiological reports of patients receiving retrograde IM nailing were reviewed, and appropriate data were collected using a structured questionnaire. Independent variables included demography, nail size, nail tip location, and complications of PIFF, whilst the dependent variable was peri-implant femur fracture. Data was analyzed as prevalence, percentages, mean, and Chi-square test. **Results:** Out of 3076 patients treated with retrograde IMN, 29 (0.94%) experienced PIFF. Notably, 69% of these patients were aged 18-39 years, and 79% were male. The predominant nail sizes were 9mm and 10mm, each constituting 34.5% of the cases with the 360mm nail length being the most frequent (31%). 69% of PIFF cases had their nail tip positioned below the lesser trochanter, with a mean distance of 28.4mm, though this was not statistically significant (p=0.232). Remarkably, no complications were reported following PIFF treatment. **Conclusion:** The study concludes that the incidence of PIFF following retrograde IMN at MOI is relatively low. The findings highlight the need for a surgical plan tailored to each patient's unique characteristics as well as prioritizing meticulous

pre-operative planning and intra-operative techniques, which can, in the long run reduce the risk of PIFF. Nonetheless, further study to investigate whether these factors are independent risk factors is highly recommended.

4. **Afshar, S. (2024). The prevalence and associated factors of lumbosacral spondylolisthesis among patients with low back pain referred to MNH for a lumbosacral MRI between 2021 and 2023. Muhimbili university of health and Allied Science.**

ABSTRACT

Background: A displacement of the vertebral body relative to the surrounding vertebral bodies is referred to as spondylolisthesis. It is estimated that around 25% of individuals with spondylolisthesis experience at least one episode of significant back pain at some point. Even though spondylolisthesis could be frequent in Tanzania, its prevalence and severity are still undetermined. **Main objective:** To determine the prevalence and associated factors of incidental lumbosacral spondylolisthesis among patients with lower back pain referred to Muhimbili National Hospital (MNH) for a lumbosacral magnetic resonance imaging (MRI) between 2021 and 2023. **Materials & Methods:** Adult patients referred for a lumbar MRI imaging at MNH between 2021 and 2023 were the subjects of **a single-centre retrospective cross-sectional descriptive investigation**. The researchers used a checklist to collect information about the patient's demographics and MRI findings. Information was collected from patient files and electronic records, and the collected data was managed and analyzed using SPSS version 26. Frequencies and percentages summarise categorical data, while means and standard deviation summarise continuous data**. Cross-tabulations and Fisher's exact tests were employed to assess the associations, with a significance threshold of $p < 0.05$. Results:** A total of 247 participants were analysed; females were 136 (55.1%) and males 111 (44.9%). The mean age for spondylolisthesis patients

was 63.12 (±10.95) years, and 2/3 (66%) were over 50. The prevalence of incidental lumbosacral spondylolisthesis was 50 (20.2%). Females had a higher 33 (24.2%) proportion of spondylolisthesis than males 17(15.3%). Grade I spondylolisthesis and L5-S1 level account for 68% and 64% of all lumbosacral spondylolisthesis cases, respectively. **Conclusion**: The findings of our study suggest relatively higher prevalence of lumbar spondylolisthesis (20.2%). Spondylolisthesis is more prevalent in patients with lower back pain over 60 years, so it should not be ignored in this age group.

Keywords: Low back pain, MRI, Spondylolisthesis.

5. **Agonza, C. (2024). Dermatological disorders among patients with chronic kidney disease at Muhimbili National Hospital, Dar es Salaam. Tanzania: Prevalence, pattern, associated factors and impact on quality of life. Muhimbili University of Health and Allied Sciences.**

ABSTRACT

Background: Dermatological disorders in chronic kidney disease (CKD) are common and occur at any stage of the disease. They can occur denovo or as a consequence of CKD itself, underlying etiology, or treatment modality. However, locally, there is limited current information on their clinical presentation and their effect on quality of life of these patients. This study determined the prevalence, pattern and associated factors of dermatological disorders among patients with CKD and their effects on patients' quality of life. **Methodology:** A hospital-based cross-sectional study was conducted from September 2023 to January 2024 at the MNH in Dar es Salaam. Patients were recruited from the Nephrology wards and clinic, as well as the Hemodialysis (HD) unit. All eligible and consenting adult patients (age≥18 years) with CKD attending the unit were consecutively enrolled until the sample size was attained.

For each patient, data on socio-demographic, clinical and laboratory characteristics were collected through a structured questionnaire. A thorough dermatological examination was carried out to establish the diagnosis. Digital photographs of all skin lesions were taken for confirmation of the diagnosis by a Dermatologist. The impact on quality of life was assessed using the Dermatology Life Quality Index (DLQI**).** Results of descriptive statistics were reported as median (IQR) and proportions as appropriate. Comparison of categorical variables was done using the Chi-square or Fisher's exact test, where appropriate. Factors associated with the dermatological disorders were assessed using the Modified Poisson Regression Model at univariate and multivariate level analyses. A p-value <0.05 was considered statistically significant. **Results:** Two hundred and twenty-five CKD patients participated in the study, of whom 60.9% were male. The overall median age was 55 years (IQR 43,64). Among the participants; 64% were hypertensive, and 28.9% were diabetic. 86.7% had CKD stage 5, and 65.3% were on hemodialysis. Related complications were hypocalcemia in 68.4%, hyperphosphatemia in 72.4%, and anemia in 94.7%. The overall prevalence of dermatological disorders was 88.9%. The common dermatological manifestations were pallor (90.5%), xerosis (47.8%), pruritus (29.6%), onychomycosis (25.6%), Lindsay's nail (19.2%), mucosal changes (14%) and hair changes (8.5%). Factors found to be strongly associated with the presence of dermatological disorders were advanced CKD, HIV, hypocalcemia and anemia, (all with p<0.05). The statistically significant independent predictors of dermatological disorders were HIV (aPR 1.17), hyperphosphatemia (aPR 1.21) and anemia (aPR 1.72), all with p value<0.05. Quality of life was impaired in 22% of the participants. Pruritus was the only significant predictor of impaired DLQI (p<0.001). **Conclusion:** Dermatological disorders are highly prevalent among patients with CKD in our setting and are strongly associated with HIV, hyperphosphatemia and anemia. The dermatoses, in particular; pruritus, are associated with a significant negative impact on quality of life among the already burdened CKD patients.

6. **Alexandre, A.M. (2024). Factors associated with high-grade prostate cancer detection at initial biopsy in patients attending Muhimbili National Hospital. Muhimbili University of Health and Allied Sciences.**

ABSTRACT

Background: Prostate cancer (PCa) is a significant public health concern, particularly in the elderly male population. Detecting high-grade prostate cancer (HGPC) is crucial because it has a worse prognosis than low-grade PCa, necessitating aggressive treatment. **Objective:** This study investigated factors associated with the detection of high-grade prostate cancer in patients undergoing initial biopsy at Muhimbili National Hospital (MNH), with a focus on the Tanzanian context. **Methods:** A retrospective cross-sectional analytical design was employed, encompassing adult males aged 40 years and older who underwent prostate biopsy at MNH. Demographic, clinical, and lifestyle factors were systematically assessed, and data on prostate-specific antigen (PSA) levels, digital rectal examination (DRE) findings, prostate ultrasound and biopsy results were recorded. A Chi-square test was conducted to analyse the associations between factors of interest and high-grade prostate cancer (Gleason score ≥ 7). Multivariate analysis was employed to determine the independent factors associated with high-grade prostate cancer, controlling for confounding variables. A p value ≤ 0.05 was considered to indicate statistical significance. **Results:** A total of 260 participants who underwent prostate biopsy from October 2022 to March 2024 were included in this study. The majority were aged 60-79 years (72±9), married, and self-employed. Common comorbidities included hypertension (42.7%) and diabetes (8.1%), and a positive history of smoking was reported by 38.5% of patients. The main complaint was LUTS (61.5%), and 73.5% of the studied population had abnormal findings on digital rectal examination (DRE). The median PSA level was 81.6 ng/mL (0.096-2000), with 93.8% of patients having increased PSA levels. The proportion of

HGPC among the studied population was 63.08%, with Gleason patterns 8 and 9 being the most prevalent (42.1% and 26.8%, respectively). Multivariate logistic regression analysis revealed significant predictors of HGPC, including a family history of prostate cancer (AOR = 8.45, p = 0.001), cigarette smoking (AOR = 2.797, p = 0.044), abnormal DRE findings (AOR = 36.897, p < 0.001), and a PSA-Density greater or equal to 0.15 (AOR = 10.39, p = 0.044). **Conclusion:** Family history of prostate cancer, cigarette smoking, abnormal DRE findings and a PSA-D greater or equal to 0.15 emerged as significant predictors of HGPC. Overall, these findings emphasize the need for individualized patient selection for prostate biopsy while targeting HGPC.

Keywords: High-grade prostate cancer, Initial biopsy, Muhimbili National Hospital

7. **Ali, A.Z. (2024). Factors Influencing Knowledge, Perception and Attitude Towards Premarital Sickle Cell Disease Screening Among Pregnant Women Attending Antenatal Clinic at Muhimbili National Hospital. Muhimbili University of Health and Allied Sciences.**

ABSTRACT

Background: Tanzania has a high burden of Sickle Cell Disease, with approximately 11,000 babies born with Sickle Cell Disease (SCD) each year, ranking 5th in the world. This calls for effective premarital screening to reduce this burden. However, limited data exist on factors influencing pregnant women's knowledge, attitudes, and perceptions toward premarital screening (PMS) for sickle cell disease. **Objective:** The study aimed to assess factors influencing knowledge, perception, and attitude toward premarital sickle cell disease screening among pregnant women attending the antenatal clinic (ANC) at Muhimbili National Hospital (MNH). **Material and Methods**: This was a cross-sectional study whereby 400 pregnant women were recruited from December 2023 to January 2024. Structured questionnaire was used to collect socio

demographic, obstetric characteristics associated with knowledge, attitude and perception regarding premarital SCD screening. Multivariable logistic regression was conducted to identify independent factors associated with knowledge, perception and attitude towards premarital screening for sickle cell disease. Results were reported using Odds Ratio (OD). A p-value of less than 0.05 was considered significant. **Result**: The mean age of participants was 29 years (SD ± 6.2) and 48% of pregnant women were aged 26-35. The proportion of women with adequate knowledge was 6.5%, positive perception 68.7% and positive attitude 68.0% towards premarital screening for sickle cell disease. The multivariate regression analysis shows, college education (OR=3.0, 95% CI=1.46-6.19), secondary education (OR=2.26, 95% CI=1.10-4.64), are associated with a positive attitude towards PMS. Positive perceptions of PMS are associated with being employed (OR=2.42, 95% CI=1.21-4.86). **Conclusion**: The study identified a significant knowledge gap of PMS for SCD screening among pregnant women. Education and employment status influenced attitude and perception. Improving education and opportunities for work will enhance knowledge, perception and attitude for PMS.

8. **Allan, J.N. (2024). Prevalence and Factors Associated with Low Back Pain among Health Care Workers in Nyamagana District, Mwanza. Muhimbili University of Health and Allied Sciences.**

ABSTRACT

Background: Low back pain (LBP) is a prevalent musculoskeletal condition affecting workers and healthcare professionals globally, with an estimated 619 million people affected. This number is projected to rise to 843 million by 2050, a 36.4% increase. In Africa, LBP prevalence rates are estimated at 62%, but specific data on Tanzanian healthcare workers, particularly in Nyamagana District, is limited. **Objectives:** This study aimed to determine the prevalence and factors

associated with LBP among healthcare professionals in Nyamagana District, Mwanza. **Methodology:** An analytical cross-sectional study was conducted among 334 healthcare workers in Nyamagana District, using stratified random sampling. Data were collected through a pretested questionnaire adapted from the Nordic Musculoskeletal Questionnaire. Descriptive statistics were used for demographic variables, and chi-square and Fisher's exact tests compared categorical variables. Modified Poisson regression with robust error variance, adjusted for age, sex, and BMI, identified independent factors associated with LBP, with a p-value of ≤ 0.05 considered significant. **Results:** The point prevalence of LBP was 40.12% (95% CI: 35%-45%), and the annual prevalence was 44% (95% CI: 39%-49%). LBP was more prevalent among females (47.23%) and older age groups (36-45 years at 52.10% and >45 years at 51.52%). Significant factors associated with LBP included age (36-45 years: aPR 1.19, 95% CI: 1.09-1.29; >45 years: aPR 1.19, 95% CI: 1.09-1.31), female sex (aPR 1.16, 95% CI: 1.07-1.25), work experience of 10 years and above (aPR 1.22, 95% CI: 1.11-1.34), physically demanding tasks (aPR 1.12, 95% CI: 1.01-1.23), lack of supervisor' support (aPR 1.13, 95% CI: 1.03-1.22), fatigue (aPR 1.13, 95% CI: 1.05-1.22), and stress (aPR 1.15, 95% CI: 1.00-1.32). **Conclusion:** Approximately 40.12% of healthcare workers in Nyamagana District experience LBP. Factors associated with increased risk of LBP include higher age groups, female sex, obesity, physically demanding tasks, lack of supervisors' support, fatigue, and stress.

9. **Ally, B. (2024). Acceptability of laws and regulations restricting over-the-counter selling of antibiotics among community pharmacists in Kinondoni municipal, Dar es salaam. Muhimbili University of Health and Allied sciences.**

ABSTRACT

Introduction: The world is faced with a major problem of antimicrobial resistance. Over-the-counter (OTC) selling of antibiotics is one of the factors fueling the irrational use of antibiotics due to easy access. Despite present laws and regulations restricts, over-the-counter selling of antibiotics is still common in community pharmacies. There were no comprehensive information on the acceptability of implementation of these laws and regulations from community pharmacist perspectives in Tanzania. **Objective:** This study aimed to comprehensively explore the acceptability of laws and regulations restricting over-the-counter selling of antibiotics from the perspectives of community pharmacists in Dar es Salaam. **Materials and method:** An explorative case study design focusing on community pharmacists was conducted in Kinondoni municipality. A total of 15 in depth interviews with community pharmacists and 5 key informant interviews with inspectors from the Pharmacy council of Tanzania were conducted. Carefully prepared and pre-tested interview guides were used to collect data on affective attitudes, perception of burden and self-efficacy of community pharmacists on laws and regulations restricting OTC selling of antibiotics. A thematic analysis approach was used to analyze data. **Findings:** Attitudes and perception towards laws, professional and moral values, perception of burden, professional confidence and autonomy in dispensing were identified as key areas associated with decision to comply and acceptance of laws and regulations. Findings revealed that community pharmacists understand the importance of these regulations in preventing misuse and professional misconduct. Despite this, deliberate non-compliance occurred, driven by factors such as customer demand, business pressures, and moral dilemmas. Community pharmacists reported a positive attitude towards compliance, appreciating the professional safeguards the laws provide. However, the acceptance of these regulations was mixed, with most pharmacists noting negative business impacts. Conflicts arose between adherence to regulations and personal morals, especially when customers were in urgent need or unable to afford prescriptions. **Conclusion:** Overall, the study highlights the need for increased awareness efforts, to balancing professional

values, business viability, and public health. This study highlights requirements of collaborative efforts in addressing economic pressure, burden viewed by community pharmacists and therefore enhancing adherence to restriction and promoting responsible antibiotic use. **Recommendations:** There is a need for regulators to consider economic realities associated with adherence which will ensure professional conduct and business sustainability of community pharmacies while protecting public health. Furthermore, deliberate efforts by the Pharmacy Council of Tanzania along with other regulators, should be made to increase awareness on rational use of antibiotics at community level combined with improving accessibility and quality of health services to reduce customer demand in community pharmacies.

10. **Ally, F. S. (2024). Early outcomes and associated risk factors among neonates with low apgar score admitted at Muhimbili national hospital in Dar es salaam, Tanzania. Muhimbili University of Health and Allied Science.**

ABSTRACT

Background: Low Apgar scores, assigned at one and five minutes after birth, reflect a newborn's overall condition during the transition from intrauterine to extrauterine life. Scores below 7 at five minutes raise concerns about potential challenges during this transition. Among these potential challenges is hypoxic-ischemic encephalopathy (HIE), a devastating condition triggered by oxygen deprivation or decreased blood flow to the brain, with significant short-term and long-term ramifications. **Objectives:** The study aimed to determine the proportion, associated risk factors and early outcomes of neonates with a low Apgar score admitted in the neonatal ward at the Muhimbili National Hospital, Dar es Salaam, Tanzania. **Materials and Methods:** This was a prospective cross-sectional study with longitudinal follow-up conducted from January 2023 to March 2023 at MNH. The target population for this study encompassed all neonates admitted to the neonatal ward (above 34 weeks' gestation

age). Data was collected using a structured questionnaire consisting of four sections focusing on maternal and neonatal information. The Apgar score was retrieved from mothers' Reproductive and Child Health (RCH) cards or the perinatal chart. Daily monitoring of HIE Thompson scores over seven days determined the immediate survival status of enrolled newborns. Descriptive statistics were computed for categorical variables. Differences in proportions were analysed using the Chi-square test. Logistic regression was performed to determine factors associated with a low Apgar score. A p-value of less than 0.05 was considered statistically significant. **Results:** Out of 831 neonates admitted to the neonatal ward, 272 were enrolled in the study. Most of the neonates, 144 (52.9%) were females, had a median gestational age of 38 (IQR: 37-39.2) weeks and 194 (71.3%) did not require resuscitation. Out of the 272 neonates, 98 (36%) neonates had a low Apgar score. Having a low Apgar score was significantly associated with birth weights between 1000-1499 and 1500-2499g, and male sex. Among the neonates with a low Apgar score, 94 (95.9%) had HIE with mild HIE (55.3%) being most prevalent. The majority of neonates (92.6%) who developed HIE remained alive after 7 days of follow-up. **Conclusion:** There is a high proportion of low Apgar scores among neonates admitted at MNH, most of them developing mild and moderate HIE, and the majority of them were alive vi after 7 days. Low birth weight and male gender were independent risk factors for low Apgar scores. Recommendations: Development and implementation of cost-effective intervention strategies to improve birth outcomes and neonatal care at MNH. We also recommend the provision of special care to high-risk groups of neonates, such as newborns with low birth weight.

11. **Ameir, S. P. (2024). Anatomical and visual outcomes of rhegmatogenous retinal detachment surgery and its associated factors in Dar-es-salaam. Muhimbili University of Health and Allied Science.**

ABSTRACT

Background: Rhegmatogenous retinal detachment is a serious ocular condition that occurs secondary to retinal breaks causing detachments from underlying choroid. Anatomical outcomes after RRD surgery are good in approximately 85% of patients worldwide. In developing countries like Tanzania, the outcomes of rhegmatogenous retinal detachment are not known. The visual outcome depends on preoperative best-corrected visual acuity, duration of retinal detachment, macula and proliferative vitreoretinopathy status, and number of retinal detachment surgeries. Timely and appropriate interventions facilitate the restoration of structural integrity and vision. Knowing the factors associated with the outcomes of rhegmatogenous retinal detachment surgeries helps in decision-making, patient counseling, and resource allocation. **Aim:** To determine the anatomical and visual outcomes of rhegmatogenous retinal detachment surgeries and associated factors at selected hospitals in Dar-es-Salaam. **Methodology:** A hospital-based retrospective cohort study among consecutively selected participants who underwent rhegmatogenous retinal detachment surgery at Dr. Agarwals and Comprehensive Community Based Rehabilitation hospitals from January 2010 to December 2022 in Dar-es-Salaam. Data were collected through a review of clinical records of participants who underwent rhegmatogenous retinal detachment surgeries. Data analysis was done using Statistical Package for Social Sciences version 26. The chi-square and Fisher exact test were used to show a relationship between anatomical outcomes and independent variables. Univariate and multivariate logistic regression was used to determine the strength of associations. P values $\leq$ 0.05 were considered statistically significant. **Results:** Out of 213 participants' eyes operated, 33.8% were operated at Dr. Agarwals eye hospital and 66.2 % at Comprehensive Community Based Rehabilitation in Tanzania. About (72.3%) were males. The median age was 53 years with an interquartile range of (39-60). The majority (82.2%) of participants had macula off rhegmatogenous retinal detachment,

and 48.6% had horseshoe tears. The primary anatomical success was achieved in 75.25% of eyes and final anatomical success was achieved in 96.2% of eyes. Good visual outcome was achieved in 77.7%. Eyes that were operated on for more than 7 days were more likely to vi have a primary anatomical failure (aOR=1.337, 95%CI=1.142-1.802, p-value=0.014). Eyes that underwent more than 2 surgeries were more likely to have a final anatomical failure (aOR=11, 95%CI=2.06-58.77, p-value=0.004). In multivariate analysis, the following were associated with good post-operative best-corrected visual acuity: Good preoperative best corrected visual acuity (aOR=12.88, 95%CI=7.69-21.58, p-value=0.001), presence of macula on rhegmatogenous retinal detachment (aOR=3.34, 95%CI=1.34-8.33, p- value=0.010), and presence of postoperative complications (aOR=0.45, 95%CI=0.26-0.78, p-value=0.005) **Conclusion:** Both anatomical and visual outcomes were good in the eye which underwent rhegmatogenous retinal detachment surgeries at Dr. Agarwals eye hospital and Comprehensive Community Based Rehabilitation in Tanzania. Eyes with more than one RRD surgery were associated with final anatomical failure. Preoperative best corrected visual acuity 6/60 and better, macula on rhegmatogenous retinal detachment were associated with good visual outcomes. Eyes with more than one RRD surgery were risk factors for final anatomical failure. Preoperative best corrected visual acuity 6/60 and better, macula on rhegmatogenous retinal detachment are factors for good visual outcomes. **Recommendation:** Expanding vitreoretinal surgical services in the country so as to increase accessibility may help in early intervention.

12. **Asenga, E.D. (2024). Acceptability of earplug use among small scale metal workers in Dares Salaam Tanzania. Muhimbili University of Health and Allied Sciences.**

    ABSTRACT

Background of the study: Noise Induced Hearing Loss (NIHL)is becoming a common cause of hearing loss in developing countries particularly among small scale metal individuals who are subjected to loud sound levels above 85dB(A). Due to a lack of proper control measures, this problem continues to affect those exposed. In Sub-Saharan Africa (SSA), factors such as lack of awareness, inadequate workplace safety measures, and limited access to healthcare might influence the prevalence of noise-induced hearing loss. Earplug use has been strongly recommended as a pivotal strategy to enhance the usefulness of global responses to noise-induced hearing loss (NIHL), with the ultimate goal of minimizing or eradicating NIHL by the year 2050. While some developed countries have already implemented such interventions, Tanzania has yet to undertake this key measure, and whether its use will be acceptable among the users is unclear. **Objective:** To explore the acceptability of earplug, use among small-scale metal workers in Dar es Salaam Tanzania. **Material and Methods:** The study was conducted in Ilala and Temeke Districts in Dar es Salaam. It used a qualitative case study design, with in-depth interviews as a data collection method. Twelve participants were recruited purposively for this study. Thematic analysis was applied to examine the acceptability of earplug use among small-scale metal workers using framework analysis. **Findings:** Participants expressed acceptability of Earplugs saying that it reduced the amount of noise, and the easiness of using it. Furthermore, acceptability was also influenced by the good reputation of the trainers, close collaboration between workers and service providers, and participants' understanding that the service provider was meant to protect them from the effects of noise. Intervention coherence, intervention burden/barriers, and self-efficacy were also important in explaining the acceptability of earplug use. **Conclusion**: The most critical factor contributing to the acceptability of earplug use was the perceived effectiveness of the device in achieving its intended purpose. While participants expressed the understand of earplug in relation to its easiness to use and comfort, they experience.

13. **Athman, L.P. (2024). Depression among adolescents with sickle cell anemia in Dar es Salaam, Tanzania: Prevalence, associated factors, and lived experiences. Muhimbili University of health and allied Sciences.**

ABSTRACT

Background: Depression is a mood disorder that affects how a person feels, thinks, and conducts daily activities. Sickle Cell Anaemia (SCA), like other chronic diseases, has been associated with an increased likelihood of neuropsychiatric complications (including depression) and reduced quality of life due to the chronicity of the disease and the occurrence of painful crisis. Studies have revealed that adolescents with SCA are found to have higher rates of depressive symptoms compared to children who do not have SCA. Broad **Objective:** To assess the magnitude of depression, associated factors, and lived experiences among adolescents 10-19 years with SCA attending the sickle cell clinic in Dar es Salaam from October 2023 to March 2024. Materials and **Methodology:** A sequential dominance mixed method research study. Socio-demographic and SCA severity data were collected using pre-structured and pre-tested questionnaires, and in-depth interviews were conducted among participants with depression to explore their experiences. Descriptive statistics were summarized as mean and standard deviation for continuous variables. Categorical variables were described using frequencies and proportions with the difference in proportions analyzed using the chi-squared or Fisher's exact test, as appropriate. Univariate and multivariable analyses were used for the associated factors. A P-value of less than 0.05 was considered statistically significant. Qualitative data was analyzed using NVivo 11 pro; codes, themes, and subthemes were derived, and a final write-up was made. **Results:** Among 326 adolescents, 216 (53.7 %) had depressive symptoms, where by 167 (38.7%) had mild symptoms, 48 (14.7 %) had moderate symptoms and 1 (0.3%) had severe symptoms. Fifteen percent of adolescents had clinical depression (moderate

and severe depression). Various factors, including age, gender, education level, health insurance, use of hydroxyurea, hospital admission, and blood transfusion showed no significant association with depression, p >0.05. Painful episodes experienced within the previous 12 months were significantly associated with depression (aOR = 2.49) (95% CI: 1.17 - 5.29, p = 0.01). The majority of adolescents experienced loneliness and isolation and had not fully accepted the reality of living with SCA. Adaptive and maladaptive behaviors were observed as the coping mechanisms when depressed. Family and community social support came from parents, friends, and teachers. However, some reported mistrust from friends, bullying, and name-calling. **Conclusion:** Depression is common among adolescents with SCA in our setting. Painful episodes experienced by these adolescents were significantly associated with depression. Depressed adolescents commonly experience loneliness and isolation. Social support, coping mechanisms, and acceptance play pivotal roles in their well-being. Understanding these experiences can inform targeted interventions and support systems for this vulnerable population. Recommendations This study highlights the need for screening adolescents with SCA for depression and the integration of mental health services in sickle cell clinics. Prevention and adequate management of frequent painful episodes are crucial for these adolescents. Targeted interventions should focus on good coping strategies, acceptance, and strengthening social support systems

14. **Aziz, S. (2024). Computed tomography detection of abdominopelvic metastasis and its association with hormonal receptor status in breast cancer patients at Ocean Road Cancer Institute. Muhimbili university of health and Allied Science.**

ABSTRACT

Introduction: Breast cancer is one of the most prevalent cancers among women worldwide, with approximately 200,000 new cases diagnosed each year. Several risk factors, including age, family history, and obesity, have been associated with the

development of breast cancer. Most Tanzanian women receive a breast cancer diagnosis at an advanced stage. Like other cancers, breast cancer can metastasize to distant organs, including the lungs, liver, bones, and brain. However, metastasis to the abdominopelvic region is relatively rare due to its often-asymptomatic nature. When it occurs, it typically indicates an advanced stage of the disease. Understanding the relationship between CT findings and hormonal receptor status is crucial for tailoring treatment and effectively managing the disease. **Objective:** To determine the Computed Tomography Detection of Abdominopelvic Metastasis and Its Association with Hormonal Receptor Status in Breast Cancer Patients at Ocean Road Cancer Institute. (from July 2020 to Dec 2022) **Methodology:** A descriptive cross-sectional study was conducted at ORCI from July 2020 to December 2022, enrolling 140 patients with breast cancer. Abdominopelvic CT findings, staging, and hormone status data were recorded. A checklist developed by the Principal Investigator (PI) were used. CT images were read by the PI and a senior Radiologist. Data analysis was performed using SPSS Version 25, with multiple logistic regression was used to examine the factors associated with metastases. Statistical significance was set at p-value of less than 0.05. **Results:** Majority (92%) of patients with breast cancer were > 40 years old with mean age of 53.71±11 years. Approximately 52.9% had abdominopelvic metastasis and liver was the most common (47.9%) site involved. Majority (81%) of patients had advanced-stage 4 and most were hormonal receptors negative. Estrogen (ER) (AOR: 5.23, 95% CI: 2.32-11.76, $p < 0.001$, progesterone (PR) (AOR: 0.64, 95% CI: 0.55-0.74, $p < 0.001$) positive statuses and TNBC (AOR: 1.28, 95% CI: 1.15-1.42, $p < 0.001$) were significantly associated with abdominopelvic metastases. **Conclusion:** Most of breast cancer patients were hormonal receptor negative, Liver was the most affected organ. Stage 4 cancer, Estrogen receptor (ER) and progesterone receptor (PR) positivity were the key predictors of abdominopelvic metastasis. **Recommendations:** Early detection of metastatic disease is essential for making informed treatment decisions and improving patient outcomes. Further research to be done aimed at

understanding the underlying factors contributing to late-stage diagnosis and prognosis of negative hormonal receptor statuses in breast cancer patients in Tanzania.

15. **Baamary, A. S. (2024). Knowledge of menopause and associated factors among premenopausal women in Temeke Municipal Council, Dar es salaam. Muhimbili university of health and Allied Sciences.**

ABSTRACT

Background: Menopause is a critical life stage that can significantly impact a woman's health and well-being. Adequate knowledge about menopause and its associated factors is essential for informed decision-making and healthcare management. However, there is a limited understanding of menopause among premenopausal women in the Tanzanian context. **Objective**: This study aimed to assess the level of knowledge of menopause and its associated factors among premenopausal women in Temeke Municipal Council. **Materials and Methods:** The study design was a community-based analytical cross-sectional approach. The study population comprised premenopausal women in Temeke Municipality. Data collection involved an interviewer-administered Kiswahili questionnaire. Numerical variables were summarized using the mean and standard deviation, while categorical variables were summarized using frequency and percentage. Knowledge level was determined based on a mean score from the responses to knowledge questions. The Chi square test was used to determine the distribution, while bivariate and multivariate analyses were used to determine the associations between factors and the knowledge level of menopause. A p value of less than 0.05 was considered significant. **Results:** The study showed 252 (65.5%) had inadequate knowledge. Women without a history of menopausal symptoms and hormonal medications/contraceptive use and those who did not receive menopause-related information within healthcare services and social support related to menopause were (aOR = 0.39, 95% CI 0.18-0.82, P = 0.01) (aOR =

0.48, 95% CI 0.30-0.77, P = 0.00) (aOR = 0.37, 95% CI 0.201-0.697, P = 0.00) (aOR = 0.49, 95% CI 0.300-0.799, P = 0.00) respectively less likely to have inadequate knowledge. **Conclusions:** Most premenopausal women had inadequate knowledge of menopause, particularly regarding symptoms and management. Key factors associated with this knowledge included health education within health care and receiving social support. Specialized training programs should focus on menopause management and patient education to ensure healthcare providers can offer accurate information and support to premenopausal women.

16. **Bahati, R.G. (2024). Factors associated with diabetic foot ulcers severity among patients attended at Muhimbili National Hospital. Muhimbili University of Health and Allied Sciences.**

ABSTRACT

Background: Diabetic foot ulcers are a severe and multifaceted complication that has resulted in prolonged hospital stays, burdened the healthcare system of the country, increased amputation rates and therefore reduced the quality of life for patients. Despite the adverse health effects of Diabetic foot ulcers, there have been limited studies on the severity of the disease in Tanzania. Consequently, there is a lack of evidence and knowledge about the factors that contribute to the severity of Diabetic foot ulcers. **Objective:** - To determine the factors that are associated with the severity of diabetic foot ulcers in patients who are receiving care at Muhimbili National Hospital. **Methodology:** - An analytical cross-sectional study was conducted at Muhimbili National Hospital between August 2023 and March 2024. A total of 177 patients with diabetic foot ulcers, comprising attendees of diabetic clinics and inpatients, was selected through a purposeful sampling method. Data collection utilized a structured questionnaire via Google Forms. The gathered data were managed using SPSS software version 23. Descriptive statistics were used to summarize socio-

demographic and clinical factors using frequency tables and percentages. Univariate and multivariate ordinal logistic regression analysis were employed to explore the relationship between various factors and the severity of diabetic foot ulcers. In the multivariable analysis, variables showing association with diabetic foot ulcers at a significance level of ≤ 0.2 in the univariate analysis were included to adjust for potential confounders. Adjusted odds ratios (OR) with a 95% confidence interval (CI) were used to evaluate the strength of the association. A significance level of ≤ 0.05 was deemed significant in determining the strength of the association. **Results:** A total of 177 patients were recruited; of whom 117 were male (66.1%), with a median age of 60 years and an interquartile range (IQR) of 52 to 68. Among them, 75.7% (n = 134) were married, and 23.7% (n = 42) were either single, divorced, or widowed. 40.9% (n = 72) of the participants had no medical insurance coverage. Over 48.0% (n = 85) reported having had diabetes mellitus for more than 10 years. Among the participants, 70.6% (n = 122) reported taking diabetic mellitus medication irregularly, and the majority 88.6% (n = 156) of the patients had elevated glycated hemoglobin (Hb1Ac ≥ 6.5) upon admission. The majority of Wagner severity grades were grade 3, followed by grade 4, and grade 5, with 13%, 30.5%, and 27.1%, respectively. Participants over 60 years were1.83 times more likely to have severe diabetic foot ulcers than those aged 18-60 years (aOR = 1.83,95% CI 1.05-3.23, P = 0.035). Furthermore, after adjusting for confounders, participants without medical insurance were 0.51 times more likely to have severe diabetic foot ulcers compared to participants who had medical insurance (aOR = 0.51, 95% CI 0.27-0.96, P = 0.036). Also, participants who were not takingglycemicdrugs regularly were found to be 2.62 times more likely to have severe diabetic foot ulcers compared to those who were taking diabetic glycemic drugs regularly (aOR = 2.62, 95%CI 1.36-5.09, P = 0.004). **Conclusion:** The study investigated factors associated with severity of diabetic foot ulcers and found older age >60 years, lack of medical insurance coverage and irregular intake of diabetes medication were significantly associated with increased ulcer severity.

17. **Bahsan, K.M. (2024). Quality of Life in Burn Injury Survivors Using World Health Organization Assessment Scale II at Muhimbili National Hospital. Muhimbili University of Health and Allied Sciences.**

ABSTRACT

Background: Burn injury is a global problem affecting people of all ages. For instance, globally, 800,000 new cases of burns were reported in 2019, and 100,000 new deaths were reported most of it was confined to children under the age of < 4 years. In sub-Saharan Africa, it is estimated that 18,000–30,000 children suffer burn injuries every year following burn-related accidents. Among all injuries in children requiring visits to health centers in Dar es Salaam 26% were due tburns, with the majority occurring at home while doing household chores. **Objective**: To assess the long-term psychological distress and quality of life among burn survivors using WHODAS-II at MNH. **Methodology:** This was a cross-sectional observational study done at MNH for 5 months, from September 2023 to March 2024. The study population involved pediatric and adult burn survivors, capturing different age groups' challenges. We admitted them to MNH, treated them there, and then released them to either attend a clinic or no longer seek medical care. We retrieved their contact information from the medical records, called those who no longer sought medical care, and invited them for an interview. The data was processed and analyzed using SPSS version 23. Categorical variables were depicted using proportions and frequency tables, while continuous variables were quantified using statistical measures such as the mean, median, standard deviation, and percentage. Other statistical tests, such as the t-test and Spearman correlation coefficient, were used. **Results:** This study included 84 participants, with the majority being males (79.8%). We used the standardized assessment scale tool WHODAS-II, to assess the participants. On the TBSA, participants with greater surface area had a poor mean score of life across all

domains of life. This also had a direct correlation with the location of the burn; the victims in exposed and unexposed areas had a poorer quality of life compared to either exposed or unexposed assessed alone. The study found a peculiar correlation between the burn age factor and an individual's quality of life: the greater the burn age, the better the quality of life. Finally, this study found no difference in the quality of life between burn victims before and after school. **Conclusion:** The study reveals burn survivors face unique challenges in various aspects of their lives, including social and psychological effects. It highlights the need for healthcare providers, legislators, and rehabilitation specialists to strategize and direct therapies such as psychological evaluation and physiotherapy for these individuals. A large-scale study across Tanzania is crucial to better understand these experiences and influence policymakers to promote rehabilitation and reintegration.

18. **Bakar, M.A. (2024). Assessment of the Level of Implementation of Infection Prevention and Control Practices in District and Regional Hospitals in Dar es Salaam, Tanzania. Muhimbili University of Health and Allied Sciences.**

ABSTRACT

Introduction: Infection prevention and control (IPC) is imperative for the prevention of healthcare associated infection (HCAI) and multi drug resistant bacteria. However, IPC implementation is suboptimal in developing countries. To improve optimization of IPC measures, and resources, World Health Organization (WHO) has developed the Infection Prevention and Control Assessment Framework (IPCAF) as a self-assessment tool for the level of IPC implementation at healthcare facility. **Objectives:** This study aimed to assess the level of implementation of IPC activities in district and regional hospitals in Dar es Salaam, using the WHO IPCAF **Materials and Methods:** A cross-sectional study was done to collect data between April and July, 2024. This assessment recruited three regional referral hospitals, five district hospitals and one

health centre in Dar es Salaam. Only high-volume hospitals were purposively selected. Implementation of IPC was assessed using the WHO IPCAF tool. IPC focal person, hospital pharmacist, matron/patron (clinical nurse manager), laboratory manager, environmental health officer and human resource manager or health secretary were interviewed to provide data regarding IPC implementation. Scores were calculated based on each IPC core component (CC) and on the summation of all eight core components. The total scores were used to categorize the hospitals into four distinct IPC levels– Inadequate, Basic, Intermediate, and Advanced**. Results:** The overall median IPCAF level was 417 (IQR 478.6-408.75). About 89% of the surveyed facilities had intermediate IPC and the remaining 11% fell into basic IPC level. All facilities had well-elaborated IPC guidelines, good environment, materials and equipment. Surveillance and monitoring were found to be areas with big gaps in all study facilities. Underperformance of these indicators fuel AMR and HCAIs. All hospitals had inadequate staffing levels, indicating patient workload. No facility-maintained bed occupancy of one patient per bed in all units. Bed standing in corridor outside the ward was not found in RRH, however, it was found in 33.33% of hospitals at district level. **Conclusion and recommendations:** Majority (89%) of the facilities had intermediate IPC level. IPC gaps observed in the accessed facilities, underscore the requirement of quality improvement programs and feedback.

19. **Bakari, A. (2024). Prevalence and factors associated with depressive symptoms among adults receiving outpatient care at primary health care facilities in ilala district -Dar es Salaam. Muhimbili University of Health and Allied Sciences.**

ABSTRACT

Background: Depression and depressive symptoms (DS) are common among patients attending primary health care (PHC). They significantly affect an individual's well-being and daily functioning, impacting their quality of life. Globally, nearly one in four

people who visit a PHC are affected, making depression a serious public health concern that warrants attention. However, the reported prevalence rates are often lower than the actual rates because depression frequently co-occurs with other physical symptoms and conditions. **Objective:** The study aimed to determine the prevalence and factors associated with depressive symptoms among adults receiving outpatient care at primary health care in Ilala District - Dar es Salaam**. Methodology:** This was a facility-based cross-sectional study with a quantitative approach. The study population comprised adults aged 18 and above who received outpatient primary health care at Ilala District, Dar es Salaam. Data collection was from September to October 2023. Data collection was done using the semi-structured questionnaire, which comprised of social demographic characteristics and clinical diagnosis PHQ-9 to assess depressive symptoms at the cutoff point of 9 or more, and a semi-structured questionnaire with a modified questionnaire used to collect the necessary information. Captured data was analyzed using SPSS version 23. Descriptive analysis was used to summarize data; bivariate and multivariate logistic regression analyses were performed to test the association between dependent and independent variables. Ethical clearance was obtained from the MUHAS Senate Research and Publications Committee, and permission to collect data was obtained from the Regional and District Medical Office. **Results:** Data was collected from 350 participants, aged 18-39 years (70%, n=245), with a mean age of 34.6 years (SD ±13.18). The overall prevalence of depressive symptoms was 28% (n= 99). Factors such as female gender (AOR=1.87, 95%Cl 1.05-3.32, p=0.024), are shown to be associated with, a family history of mental illness (AOR= 2.54, 95% CI: 1.40-4.61, P=0.002), xii alcohol consumption (AOR=2.53, 95% CI: 1.41-4.55, P = 0.005), and presence of chronic illness. (AOR=4.29, 95% CI: 2.08-8.88, P < 0.001) Were associated with depressive symptoms. The residence area showed no statistically significant association with depressive symptoms (AOR=0.47, 95%Cl 1.40-4.61, p=0.023). **Conclusion:** The prevalence of depressive symptoms is high among adults receiving outpatient care at PHC facilities. It's associated with

female gender, familial mental health history, alcohol use, and chronic illnesses like HTN, DM, and HIV while residing in the urban area is shown to be a protective factor Recommendations: Effective interventions on mitigating the impact of identified factors associated with depressive symptoms. Findings from these studies suggest a pressing need to integrate mental health training into the curricula for healthcare workers and to implement structured programs aimed at improving their knowledge and skills regarding depression by developing care models that address both mental and physical health. Scale up mental health services by ensuring they are available within other clinics in primary health care facilities. Finally, promoting research on depression and the biological, psychological, and social factors associated better for practice in PHC systems

20. **Barbara, M. (2024). Relationship of maternal body mass index, amniotic fluid indexes and sonographic fetal weight among full-term pregnant women attending Muhimbili National Hospital. Muhimbili University of Health and Allied Science.**

ABSTRACT

Background: The sonographic estimated fetal weight (EFW) is an important aspect of obstetric planning and management decisions. Previous studies have indicated maternal body mass index (BMI) and amniotic fluid index (AFI) can impact EFW and birthweight in pregnancy. However, little is known about the relationship between sonographic EFW and BMI, AFI and BWT in full-term pregnancy in Tanzania. **Aim:** This study aimed to determine the relationship between maternal BMI, AFI, sonographic EFW, and birth weight among full-term pregnant women attending the antenatal clinic (ANC) at Muhimbili National Hospital (MNH) from February 2023 to December 2023. **Methods:** This was a cross-sectional hospital-based study that enrolled 377 full-term pregnant women. Data was collected using a structured questionnaire and entered into an MS Excel database for cleaning and management.

The data was analyzed using SPSS version 20. The BMI was calculated using the weight and height of pregnant women during 37-40 weeks of pregnancy. Continuous variables were compared using student t-test while categorical variables using Chi-square. Pearson correlation was used to compare BWT and maternal BMI, AFI, and EFW. Statistical tests were performed at a 95% confidence interval and significance level at $p< 0.001$). However, these variables had no correlations with the amniotic fluid index ($p < 0.812$). **Conclusion:** Overall, the study findings highlight that maternal BMI could have influenced fetal well being. xiv **Recommendations:** The third-trimester sonography is essential for all pregnant women in Tanzania to inform decisions for effective obstetric management. Further research is needed to explore the effects of maternal BMI on EFW and birthweight throughout pregnancy among pregnant women in Tanzania.

Keywords: Sonographic estimated fetal weight, maternal body mass index, Amniotic fluid index and Full-term pregnancy.

21. **Baso, L.E. (2024). Contribution of Self-Help Groups to Enrolment in Improved Community Health Fund in Tanzania: A Case of Dodoma City Council. Muhimbili University of Health and Allied Sciences.**

ABSTRACT

Background: To encourage members to join in Tanzania's improved Community Health Fund (iCHF), the government and stakeholders have launched several programs. Among these measures are paying direct annual fees to destitute households and enrolling members in the iCHF. Individuals are encouraged to join Self-Help Groups (SHGs) to guarantee they can repay at the end of the year after being supported by yearly fee payments and registration in the program. **Objectives:** This study aimed to explore the contribution of Self-help groups on household enrolment in the iCHF in

Dodoma City Council, Dodoma Tanzania. **Materials and Methods:** A qualitative case study design was employed during the study in Dodoma City Council. The population included supported individuals with annual iCHF subscriptions in the SHGs with multistage and purposive sampling techniques. Data were collected from November 2023 to January 2024 engaging 25 participants selected purposively from a list of the supported individuals shared by enrollment officer. During this study, 14 SHG members benefited from iCHF annual fee payment support were recruited for the two FGDs and 11 SHG members benefited from iCHF annual fee payment support enrolled for IDI during the data collection process. Collected data were subjected to thematic analysis using a deductive approach to analyze the collected information involving identifying, analyzing, and reporting patterns (themes) across the collected data through NVivo 12 software. **Results:** The study findings show that linking individuals in the SHGs has a high influence on individual enrollment in the iCHF scheme because it provides the opportunity to raise household income and motivate members to prioritize payment for the iCHF. Moreover, participants revealed that the SHG provides opportunities to take loans and pay for health services at the time of financial crisis paying the iCHF scheme. Most of the participants mentioned the SHG sharing out process period as most sustainable way of ensuring individuals are enrolled in the iCHF because they have assurance to have enough money to plan and pay for the iCHF. Further, the participants perceived the iCHF as the most supportive and affordable way of assuring access to health services to its members compared to the use of out-of-pocket payment. **Conclusion:** Based on the study findings above, ensuring individuals are enrolled in the iCHF, the use of the SHG is the right platform which enable individual enrollment in the iCHF scheme. The emphasis should be made during sharing out process where members whocul be encouraged to pay iCHF fee during this time. This is due to the revealed findings that taking loan from the SHG for the annial iCHF fee payment is a short-term sustaining compared to the sharing out

process. Moreover, there is positive perception from the members on the use of the iCHF since it provides assurance on access to health services with affordable cost.

22. **Benjamin, B. (2024). Process evaluation in compliance with the national medical waste control guidelines among healthcare staff at Mwananyamala region referral hospital. Muhimbili University of Health and Allied Sciences.**

ABSTRACT

Background: Healthcare services are among the largest sources of waste globally and produce the second Kinondoni, Dar es Salaam. Muhimbili University of Health and Allied sciences. Most harmful waste after radiation waste. Hospitals are major primary sources of healthcare waste. Nearly 15-25% of healthcare waste generated in hospitals is hazardous and a potential source of infectious diseases (1). Healthcare waste is a major potential risk factor for fatal infectious diseases worldwide, such as hepatitis C virus (HCV), human immunodeficiency virus (HIV), and hepatitis B virus (HBV) (2). Healthcare workers play a crucial role in effective healthcare waste management if they comply with healthcare waste management standards. However, in Tanzania, healthcare waste management indicators show unsatisfactory waste management practices in hospitals. **Objective**: To appraise the level of compliance with the National Medical Waste Control Guidelines among healthcare staff at the Mwananyamala Regional Referral Hospital in Kinondoni Dare-es-Salaam. **Methodology:** Analytical cross-sectional study design was employed. The sample sizes of the respondents in a study were 171 healthcare workers from Mwananyamala Regional Referral Hospital. Structured questions and observations used as the major data collection methods. Descriptive analysis was employed using Stata version 18. **Results:** The study revealed that used gloves were mostly (19.33%) generated daily compared to other types of healthcare waste. Also, there was no compliance (62%) with medical waste management practices from collection to final disposal. Majority

reported that there was no compliance of healthcare waste generation at Mwananyamala Hospital (61.4%). Also, the study participant reported, there was no compliance on waste segregation (76%). Additionally, the study revealed that there was compliance with the practices on HCW storage (62.6%), while 63.2% noted that there was no compliance with on onsite transport of HCW. Moreover, the majority reported that there was no compliance with practices of HCW treatment (71.9%). It was revealed that compliance level is associated with training whereby majority of participants with no training showed non-compliance (71.2%) an

23. **Bgoya, N.I. (2024). The role of individual patient characteristics and providers' behaviour factors on patient satisfaction at Mbeya Zonal Referral Hospital. Muhimbili University of Health and Allied Sciences.**

ABSTRACT

Background: Patient satisfaction is the fundamental component of the equitable quality of care among clients seeking healthcare services. In developed nations, patient satisfaction with healthcare services ranges from 90% to 95%; in underdeveloped nations, it is far lower, ranging from less than 50% to 95%. Many studies on various aspects of patient satisfaction have been conducted. However, a limited number of studies have focused on the role of individual patient characteristics and provider behaviour factors on patient satisfaction. **Objective:** This study aimed to determine the role of individual patient characteristics and providers' behaviour factors on patient satisfaction among patients attending laboratory and antenatal care services at Mbeya Zonal Refferal Hospital. **Methodology:** A cross-sectional analytical study was conducted at Mbeya Zonal Hospital in the Mbeya Region, Tanzania, involving patients attending antenatal and laboratory units. The study seeks to measure the health care services, namely laboratory and antenatal care services, to patient satisfaction. By systematic sampling, a total of 384 participants were selected from the study population. Data were collected

through pretested interview forms. The SPSS version 26 Windows program was used to clean, code, enter, and analyze the collected data. The significance of the link between independent variables and dependent variables was assessed using descriptive statistics, binary and multi-variable regression analysis, and a p-value of less than 0.05 Findings: **Results**: from this study validate that patient individual characteristics such as age and sex, and providers behavior such as good communication and empathy have a significant and positive effect on patient satisfaction. The overall patient satisfaction was relatively low for antenatal care services as compared to laboratory services. **Conclusion:** Based on the findings from this study, individual patient characteristics have a positive association with patient satisfaction, where women's adult age and high level of education affect patient satisfaction negatively. Service providers' behaviour affects patient satisfaction where empathy and understanding of patient needs had more effect on patient satisfaction. Antenatal care services positively affect patient satisfaction where more effect was observed on respecting waiting time and good provider communication skills. Laboratory services positively affected patient satisfaction where more effect was observed in good communication skills of service provider in providing sufficient information about sample collection procedure.

24. **Bisigoro, J.G. (2024). The quality of life before and after treatment among patients with maxillofacial fractures attending the Muhimbili National Hospital. Muhimbili University of Health and Allied Sciences.**

ABSTRACT

Background: Quality of life in medical science is particularly acknowledged as health-related quality of life accepted as a crucial aftermath for evaluating the impacts of any disease and to appraise the effectiveness of any treatment performed. Studies in Tanzania have reported an increased prevalence of maxillofacial fractures; however, because of a scarcity of information, the effect of these fractures on the quality of life of the affected patients is still unknown. **Aim:** To determine the quality of life before and after treatment among patients with maxillofacial fractures attending the MNH. **Materials & Methods:**

This was a prospective study to determine the quality of life before and after treatment among patients with maxillofacial fractures who attended the Muhimbili National Hospital. A convenient sampling technique was used for the inclusion of study participants. History and clinical examination were carried out in the dental clinic while the patient was seated on a dental chair. Findings were recorded in a special clinical form. The adopted and modified GOHAI index form was used to assess the QoL of patients with maxillofacial fractures through an interview. Data analysis was done by using the computer SPSS software version 23.0. Frequency distribution, cross-tabulation, binary, and multinomial logistic regression were done for univariate, bivariate, and multivariate analysis. Data presentation in the form of frequency distribution tables, graphs, pie charts, and mean were generated. The probability (p) value of <0.05 was considered statistically significant. **Results:** The study involved 157 patients, 138 males and 19 females, with maxillofacial fractures who attended the MNH and MUHAS dental clinics. The age ranged between 18 and 67 years, with a mean of 30.6 years (SD 9.9). Patients aged 40 years and above had a poor quality of life compared to the younger age group both before and after treatment. However, at the 6th week post-treatment, the difference between the two groups was minimal with OR=1.2 (0.3-39) in binary analysis and OR= 0.2 (0.60-0.78) in multinomial analysis. At the eighth week after treatment, there was no difference between the two groups. Before treatment, patients with ZMC had good QoL compared to others. At six weeks, however, patients with mandibular fractures and Le Forte fractures had good QoL with an OR=1.9 (1.7-25.4) binary analysis and OR=0.021 (0.003-0.132) in multinomial analysis, and OR=1.3 (0.3-34) in binary analysis, and OR=0.12 (0.11-1.47) in multinomial analysis respectively. The patients treated by closed reduction had a poorer quality of life compared to those treated by ORIF during the 6th week post-treatment with OR=1.8 (1.28-10.98) in binary analysis, and OR=13 (3-60) in multivariate analysis. During 8 weeks post-treatment, there was no statistically significant difference in QoL among patients who were treated by ORIF versus those who were treated by closed reduction. **Conclusion:** The overall QoL of patients with maxillofacial fractures before treatment was compromised, however, improvement was appreciated in the follow-up period during 6- and 8-weeks post-treatment. Although at early stages after

treatment there was the difference in the QoL of patients treated by ORIF compared to those treated by closed reduction, after eight weeks this difference was negligible. Therefore, with good planning and proper treatment, the QoL life of the patients with maxillofacial fractures can be adequately restored regardless of the modality of treatment.

25. **Bollen, T. (2024). Magnitude and determinants of hypertension among people living with HIV attending care and treatment centres in Tabora region, western Tanzania. Muhimbili University of Health and Allied Sciences.**

ABSTRACT

Background: HIV is associated with an increased risk of hypertension among people living with HIV (PLWHIV). While long-term survival due to ART use has increased the burden of hypertension among PLWHIV, but the burden is not well known especially in remote and less urbanized regions of Tanzania. **Objective:** This study determined the magnitude and determinants of hypertension among people living with HIV attending care and treatment clinic in the Tabora region. **Methodology:** A cross-sectional study of 712 PLWHIV aged 18 years and older attending CTC was conducted in twelve randomly selected facilities in Tabora Region in 2024. Data were collected using an interview-administered standardized questionnaire. Hypertension was defined by blood pressure ≥140 or ≥ 90 mmHg. Data were analyzed using STATA 15. Modified poison regression was used to assess associations between hypertension and independent variables with p value of < 0.05 significant. Ethical approval was obtained from the MUHAS ethical research review board. **Results:** A total of 712 participants were recruited in the study, of whom 398 (55.9%) female and the mean age (SD) was 45.3 (13.2) years. The overall prevalence of was estimated at 25.8%. Majority 114 (47.05) were aged between 40–59 years. The participants who were aged 60 years older had 17% Increased prevalence of having hypertension with (aPR (95%, CI): 1.17: (1.08 - 1.28) p<0.001)) compared with those with less than 40 years, while those 40 -59 years had 13% increased prevalence of hypertension with (aPR 95%, CI: 1.13(1.10 - 1.19) p<0.01. compared to those with less than 40 years. Those with the history of hypertension had 13% Increased prevalence of

hypertension with aPR (95%, CI) 1.13(1.07 - 1.19) p<0.01), compared to those with no family history of hypertension. Those who were obese and overweight had 26% and 12% Increased prevalence of hypertension with aPR (95%, CI): 1.26: (1.11 - 1.42) p<0.001and aPR (95%, CI): 1.12 (1.02 - 1.23) p value of 0.016 compared to those with underweight. **Conclusion and Recommendation:** Hypertension is higher and the proportional of untreated hypertension among PLWHIV not known. Key factors include, age above 40years, family history of hypertension, obese and overweight which were found to be significantly associated with increased hypertension, while physical activity and viral load countless th20 copies were found to be protective. Recommend lifestyle modification particularly physical activity and weight loss program among PLHIV patients on ART, also integration of HIV care with Hypertension within the routine in the CTCs.

26. **Bota, F.C. (2024). Clinical outcomes of cancer patients with chemotherapy-induced neutropenic sepsis at Mzuzu Central Hospital, Malawi Muhimbili University of Health and Allied Sciences.**

ABSTRACT

Background: Chemotherapy-induced neutropenic sepsis is a life-threatening complication of chemotherapy treatment for patients receiving chemotherapy. Despite advancements in its treatment, the incidence and its associated morbidity and mortality remain significant concerns. Investigating the time from the development of neutropenic sepsis until its cure as a clinical outcome would be important to determine which cancers fare worst and allow timely clinical decisions to save lives**. Objectives**: the aim of the study was to estimate the clinical outcomes (cure rate) of neutropenic sepsis and the associated factors among cancer patients at Mzuzu Central Hospital. **Methodology:** A retrospective cohort study using clinical data for five years (January 2019 to December 2023) was collected from the medical records of cancer patients who were receiving chemotherapy-induced neutropenic sepsis treatment at Mzuzu Central Hospital. Data was analyzed by SPSS version 25 and presented using tables and figures. Descriptive

statistics (mean, standard deviation, frequencies and percentages) were computed for continuous variables, and inferential statistics (Paired T-Test and Pearson's Chi Square Test) were computed for associations between categorical variables and outcomes of interest. Statistical significance was set at p-value < 0.05. The logistic regression model was used to further analyze predictive factors associated with, delays or acceleration, the cure rate. Cure rate was estimated by Kaplan Meir curves in days since the start of treatment to time of event. Results: The median cure rate was 10 days, the study revealed that patients who were febrile, were 4 times more likely to get cured from neutropenic sepsis than afebrile (AOR = 4.297, 95% CI: 1.517-12.172, p=0.006). Also, patients with higher QSOFA score, had reduced likelihood of cure (AOR = 0.232, 95% CI: 0.085-0.631, p=0.004). The study found no significant difference in cure rates between patients with solid and hematological malignancies (p=0.17). **Conclusion:** This study underscores the critical role of timely identification and intervention in managing chemotherapy-induced neutropenic sepsis (NS) among cancer patients. With a median cure rate of 10 days, prompt antibiotic administration significantly improved outcomes, particularly in febrile patients. However, high-risk QSOFA scores were associated with poorer prognosis.

27. **Bowah, C. (2024). Association between pre-operative nutrition status and surgical outcome among patients undergoing elective gastrointestinal surgeries at the Muhimbili national hospital. Muhimbili University of Health and Allied Sciences.**

ABSTRACT

Background: Pre-operative nutrition status is the major problem of concern in elective gastrointestinal surgery. The incidence of unfavorable outcomes following gastrointestinal surgery has been demonstrated in many published studies. Preoperative nutrition is a significant factor in post-surgical complications and contributes to a high number of deaths following gastrointestinal surgery. However, there is scarce information on pre-operative nutrition in determining post-surgical outcomes including wound healing, hospital length of stay, and serious complications like death. **Aims:** This study

aimed to determine the association between the pre-operative nutritional status and the surgical outcomes of patients undergoing elective gastrointestinal surgery. **Methods:** This prospective cohort study was conducted among two hundred twenty-two (143) adult patients aged 18 years and above who were admitted for elective gastrointestinal surgery at the surgery department of Muhimbili National Hospital. Data were collected using data abstraction form to measure the pre-operative nutritional status and the post-operative outcomes among patients who underwent elective gastrointestinal surgery. Nutrition assessment was measured using body mass index, MUAC, serum albumin, and absolute Lymphocytes both before and after the surgery. Data were analyzed using IBM SPSS Statistics version 26. Descriptive statistics were employed to delineate the socio-demographic and clinical characteristics of the study participants. Frequencies were utilized to summarize categorical variables, while mean ± standard deviation (SD) was used for numerical variables. Univariable and multivariable logistic regression models were employed to assess factors associated with the outcomes. Any variable showing an association with outcomes at a p-value less than 0.2 was included in the multivariable analysis to control for potential confounders. A variable was considered a factor associated with the outcome when it had a p-value of less than 0.05 in the multivariable analysis. **Results**: Serum albumin is the most independent, modifiable nutrition risk factor that is associated with both mortality and morbidity. The MUAC and Nutrition risk index though had an impact on the post-surgical outcomes, but could not exist independently. Participants with abnormal albumin levels were 9.17 times more likely to have pyrexia septicemia post-surgery compared to participants with normal albumin levels and such association was statistically significant. AOR=9.17 (95% CI 2.26-37.22. P=0.002). Participants with abnormal albumin levels were 19.22 times more likely to have dyselectrolytemia post-surgery compared to participants with normal albumin levels and such association was statistically significant. AOR=19.22(95%CI 2.84-130.27, P = 0.002. Participants with abnormal albumin levels were 45.44 times more likely to have other complications post-surgery compared to participants with normal albumin levels and such association was statistically significant. aOR = 45.44 (95% CI 1.86-111.6, P= 0.019). **Conclusion:** It was established that the pre-operative nutrition status of patients

undergoing elective gastrointestinal surgery has an association with postoperative outcomes. Low Serum albumin is the single most independent risk factor for adverse post-surgical outcome.

Keywords: Gastrointestinal surgery, pre-operative nutrition status, post-surgical outcomes.

28. Brighton, M, (2024). Clinical pattern, treatment options, surgical outcomes and mortality predictors of sigmoid volvulus at Muhimbili National Hospital Muhimbili university of health and Allied Sciences.

ABSTRACT

Background: Sigmoid volvulus, a benign intestinal obstruction, can cause severe complications like bowel ischemia, perforation, and peritonitis, leading to death. Elderly patients face increased surgical risks. Despite its importance, there is limited knowledge about sigmoid volvulus and mortality predictors in Tanzania's healthcare system. **Objective:** The study aimed at assessing the clinical patterns, treatment options, surgical outcomes, and mortality predictors of sigmoid volvulus at Muhimbili National Hospital. **Methods:** This single-center analytical cross-sectional study was conducted at MNH. Data from medical records meeting inclusion criteria were retrospectively reviewed from January 2018 to December 2022 using convenience sampling. The dataset was coded and analyzed using SPSS version 27. Binary logistic regression assessed the association of covariates with mortality. Results were presented as adjusted odds ratios (AOR) with 95% confidence intervals (CI), and statistical significance was set at $p<0.05$. **Results:** A total of 128 patients with sigmoid volvulus were included in this study, with a median age of 42 years. There was a notable male predominance, with a male-to-female ratio of 11.8:1. Surgical approaches included primary resection and anastomosis (58.6%) and colostomy (41.4%). The median hospital stay was 5 days. Postoperative complications occurred in 19.5% of patients, with surgical site infections being the most common (17.9%), particularly among those with a stoma (65.4%). The overall mortality rate was 10.2%, and comorbidities were significantly associated with mortality ($p = 0.001$).

Conclusion: Patients with sigmoid volvulus at Muhimbili displayed classic clinical patterns, primarily affecting middle-aged males. The rates of postoperative complications and mortality highlight the challenges in managing this condition. Factors associated with mortality included comorbidities, higher ASA scores, and unfavorable bowel status.

29. **Bucheye, E.M. (2024). Prevalence of suicidality and associated factors among clients attending medically assisted therapy clinic at Muhimbili National Hospital in Dar-es-salaam, Tanzania. Muhimbili university of health and Allied Sciences.**

ABSTRACT

Background: Suicide rates in low- and middle-income countries (LMICs) account for three-quarters of global suicides. Among various substances, heroin use is associated with particularly high suicide rates. Suicide deaths among clients currently receiving methadone therapy for heroin addiction is a public health concern, given that these clients are in access to treatment. While studies in high-income countries (HICs) have shown notable high rates of suicidality among heroin users in treatment, research in LMICs remains limited. Investigating the prevalence and underlying factors of suicidality among clients receiving methadone treatment in LMICs is crucial for effective intervention and suicide prevention. **Objectives:** This study aimed to determine the prevalence of suicidality and associated factors among clients attending a Medically Assisted Therapy (MAT) clinic at Muhimbili National Hospital (MNH) in Dar-es-Salaam. **Methodology:** A cross-sectional study was conducted at the Medically Assisted Therapy (MAT) clinic at Muhimbili National Hospital (MNH) in Dar-es-salaam from October to November 2023. Participants were selected using stratified sampling followed by convenience sampling, and all provided informed consent. The study gathered socio-demographic and clinical information using a semi-structured questionnaire, and assessed depression and anxiety symptoms using the 4-item Patient Health Questionnaire (PHQ-4). Adverse Childhood Experiences (ACEs) were evaluated using the 10-item ACE-10 questionnaire, and suicidality was measured using the WHO STEPS survey's mental health/suicide module. Data analysis used SPSS version 25, with descriptive statistics (frequencies,

percentages, mean, and standard deviation). Bivariate analysis explored associations between predictors and suicidality measures: 12-month suicidal thoughts, planning, attempts, and lifetime attempts. Variables with $p < 0.2$ underwent multivariate logistic regression to adjust for confounders. A $p < 0.05$ in multivariate analysis was considered significant. Odds ratios and 95% confidence intervals determined associations. Ethical clearance was obtained from MUHAS-IRB, and data collection permission from Muhimbili National Hospital. **Results:** Out of 402 eligible participants, the majority were males, accounting for 95.0% (382). The 12-month prevalence rates for suicidal ideation, planning, and attempts were 21.9% (88), 7.7% (31), and 3.7% (15), respectively. Overall, 22.4% (90) of clients attending the MAT clinic experienced suicidality within the past 12 months. Individual-level factors associated with increased odds of 12-month suicidality included: Use of two or more substances (OR = 4.542, 95% CI: 1.00-20.54, p = 0.049), engaging in high HIV risk behavior (OR = 2.896, 95% CI: 1.34-6.25, p = 0.007), presence of anxiety symptoms (OR = 7.710, 95% CI: 2.89-20.56, p = 0.000) and depressive symptoms (OR = 3.668, 95% CI: 1.73-7.78, p = 0.001). Conversely, a lower level of education was found to be a protective factor, decreasing the odds of 12-month suicidality (OR = 0.453, 95% CI: 0.22-0.92, p = 0.028). Interpersonal-level factors associated with increased odds of 12-month suicidality included: Being single (OR = 4.839, 95% CI: 1.16-20.14, p = 0.030), separated/divorced (OR = 4.475, 95% CI: 1.05-18.90, p = 0.042), child maltreatment (OR = 2.997, 95% CI: 1.36-6.60, p = 0.006), while living with parents or relatives was a protective interpersonal factor, reducing the odds of suicidality (OR = 0.155, 95% CI: 0.03-0.64, p = 0.008). **Conclusion:** This study highlights the significant prevalence of suicidality among methadone therapy clients, emphasizing the urgency in addressing mental health within opioid use disorder (OUD) treatment. The findings reveal the impact of individual factors (education, polysubstance use, HIV risk behaviors, mental health disorders) and interpersonal factors (social support) on suicidality. Despite the benefit of methadone in reducing suicidal ideations and behaviors, substantial risks persist, necessitating focused interventions. The study underscores the need for comprehensive strategies that integrate mental health assessment and support alongside OUD treatment to effectively mitigate suicide risk among this

population. **Recommendations:** Implement comprehensive screening and ongoing assessment for suicidality in methadone treatment clients. Develop treatment plans addressing opioid dependency and co-occurring mental health disorders. Train healthcare providers on opioid use, mental health, and suicidality, with a focus on cultural competency. Involve families in therapy and promote community support. Integrate strategies to address polysubstance use. Support research and policies for comprehensive care. Target interventions for high-risk groups like those with child maltreatment histories or high-risk HIV behaviors.

30. **Bukulu J, (2024). Nurses' perspectives on the implementation of open visitation of patients admitted in the intensive care unit at Muhimbili National Hospital in Dar es salaam. Muhimbili university of health and Allied Sciences.**

ABSTRACT

Background: Patients and their families often experience anxiety upon ICU admission due to pain and uncertainty. Restrictions on visiting hours exacerbate stress and sadness. Open visitation, allowing longer visiting hours and more access, has been suggested to reduce stress for patients and their families. As healthcare evolves toward patient and family-centered care, the introduction of unrestricted visiting regulations in ICUs becomes a critical consideration. **Aim:** This study aimed to comprehensively explore nurses' perspectives on the implementation of open visitation for patients admitted to the Intensive Care Unit at Muhimbili National Hospital in Dar es Salaam. **Methodology:** A descriptive qualitative study design was employed, utilizing focus group discussions for data collection. The study took place in the medical and surgical adult ICUs of Muhimbili National Hospital, Tanzania. The sample size was 22 participants. Discussions were transcribed verbatim from audio recordings; the transcription was then subjected to content analysis with qualitative data analysis software using Qualitative analysis software miner version 15 (QDA). **Results:** 22 participants, averaging 34 years of age, took part. About 77.3% had over three years of nursing experience, 54.5% worked in the surgical ICU, and 63.6% had over three years of ICU experience. Participants understood

the concept of open visitation, generating themes such as understanding, attitudes, impacts, challenges, and recommendations. **Conclusion:** Nurses appreciate the emotional support and satisfaction open visitation provides to patients and families but have concerns about increased infection risks, disruptions to patient care, and logistical challenges. The results highlight the need to balance the benefits of open visitation with practical considerations to ensure patient care, safety, and efficiency.

31. **Bulabo, E.G. (2024). Women's perceived barriers to accessing comprehensive post-abortion care services at Muhimbili National Hospital, Dar es Salaam, Tanzania. Muhimbili University of Health and Allied Sciences.**

ABSTRACT

Background: Globally, women who experience complications from abortion encounter barriers when trying to access comprehensive post-abortion care, which is a life-saving service. The incidence and mortality rates of unsafe abortions are predominantly reported in sub-Saharan African countries and tend to increase in areas with legal restrictions against safe abortion. Women suffer emotional distress from complications resulting from unsafe abortions when they cannot access post-abortion care. Consequently, there is limited information available on the perceived barriers that women face when trying to access comprehensive post-abortion care. **Objective:** The study aims at exploring women's perceived barrier to accessing comprehensive post-abortion care services at Muhimbili National Hospital, Dar es Salaam Tanzania. **Method:** The study utilized an exploratory design, employing phenomenological qualitative methods for data collection. It was conducted at Muhimbili National Hospital in Dar es Salaam, Tanzania. Women who experienced abortion complications were purposively selected as study participants. Data collection involved in-depth interviews using open ended questions and an audio recorder. Among other things respondents were asked about interpersonal barriers, social and organizational barriers towards seeking Comprehensive Post-Abortion Care (cPAC) at Muhimbili National Hospital. Qualitative data was analysed using a thematic approach. **Results:** Study participants revealed that they had insufficient understanding of

Comprehensive Post-Abortion Care (cPAC) and had concerns about surgical treatment complications. They were also caught in conflicting traditional beliefs, lacked of emotional and socioeconomic support from family, friends, and healthcare providers and also were stigmatized by healthcare providers. Additionally, Inadequate respective maternal care practice, long waiting times for cPAC services, and insufficient availability of medical supplies deterred women from seeking cPAC services. Conclusion and recommendation: Women seeking cPAC services at MNH face personal, community, and health system-related barriers. Addressing these barriers will ensure that cPAC services are easily accessed in this safe abortion-restrictive environment.

32. **Carlmera, O, A. (2024). Prevalence and factors associated with post-operative nausea and vomiting in patients after neurosurgery at Muhimbili Orthopaedic Institute, Muhimbili university of health and Allied Sciences.**

ABSTRACT

Background: There is a frequent occurrence of postoperative nausea and vomiting (PONV) as a complication that is mostly seen after surgery, which is related to a range of factors including those that are patient-related, anaesthesia and surgical in nature. The prevalence of PONV in neurosurgical procedures ranges from 30% in low-risk groups to 80% in high-risk groups globally. despite anaesthetic techniques advances and improvement in PONV recognition, prevention, treatment and management strategies. Such cases may cause complications that can delay healing. **Objective:** The aim of this study was to assess the prevalence and factors associated with PONV in patients after neurosurgery at Muhimbili Orthopaedic Institute (MOI). **Methodology:** This cross-sectional study at MOI ICU involved 72 participants. Data were collected using a checklist, covering consent, patient factors (age, sex, history of PONV, motion sickness, smoking status), anaesthetic factors (type of anesthesia, drugs used, inhalation agents, fasting time), surgical factors (type of operation, anatomical location, duration), and PONV events within the first 48 hours. Data were entered, cleaned, coded, and analyzed using SPSS Version 27. Descriptive statistics summarized continuous variables with

median and interquartile range (IQR) and categorical variables with frequency tables. Associations were analyzed using chi-square tests with p-values ≤ 0.05 considered significant. Logistic regression (bivariate and multivariate) was used to assess relationships and effects. **Result:** The study included 72 patients with a median age of 44 years (IQR: 35–60). The prevalence of PONV was 52.8%. Significant independent predictors of PONV included: a history of motion sickness (OR = 2.96, 95% CI: 1.14–8.11, p = 0.029), a history of PONV (OR = 2.77, 95% CI: 1.08–7.37, p = 0.037), and smoking (OR = 3.09, 95% CI: 1.17–8.63, p = 0.006). Female patients experienced PONV more frequently than males (OR = 0.32, 95% CI: 0.12–0.84, p = 0.022). Fentanyl showed a nearly significant association with PONV (OR = 0.27, 95% CI: 0.06–0.99, p = 0.065). **Conclusion and recommendation:** Prevalence of PONV in neurosurgical patients at MOI is high at 52.8% associated with patient factors of history of motion sickness, sex, history of PONV, and smoking. MOI should formulate effective assessment, prevention, management, and treatment strategies focusing on patient factors to reduce PONV prevalence and related adverse outcomes.

33. **Chacha, Y.B. (2024). Magnitude, factors associated with failed induction of labor through dinoprostone tabs and maternal/fetal outcomes at Muhimbili National Hospital 2020 to 2022. Muhimbili University of Health and Allied Sciences.**

ABSTRACT

Background: The methods used in induction of labour (IOL) are both pharmacological and non-pharmacological. Vaginal dinoprostone has been shown as one of the pharmacological agents that are highly effective and successful in IOL even when the cervix is unfavourable. Despite its efficacy and advantages over other methods, cases of IOL failure have been reported in the literature. However, few studies on failed induction with vaginal dinoprostone and its associated factors have been conducted; there is still a scarcity of data in this area for a better understanding in our local settings. **Aim of the study:** The study assessed the magnitude, factors associated with failed induction of labor through dinoprostone tabs and maternal/fetal outcomes at Muhimbili National

Hospital 2020 to 2022. **Methods:** This was a hospital-based retrospective cohort study conducted at Muhimbili National Hospital (MNH). A simple random sampling method was employed to retrieve patients case files numbers from the electronic database and case notes from medical records office for induced labour from January 2020 to December, 2022 until a sample size of 517 was attained. STATA version 15.1 was used for analysis. **Results**: A total of 517 pregnant women were enrolled in the study whereby, 69.2% (358/517) were from MNH-Upanga and 30.8% (159/517) from MNH-Mloganzila. An overall cumulative incidence of 33.1% (171/517) of failed induction of labor (FIOL) with vaginal dinoprostone was found and factors such as residence, chronic illness and pregnancy induced hypertension were independently associated with FIOL with vaginal dinoprostone (p<0.05). Also, non-reassurance foetal status, prolonged hospital stay and postpartum haemorrhage were reported as maternal outcomes while admission to NICU, low Apgar score and asphyxia as foetal outcomes. **Conclusion**: The cumulative incidence of FIOL with vaginal dinoprostone among pregnant women at MNH is high and it is associated with residence, chronic illness and pregnancy induced hypertension. Exploration of these factors and preparation for alternative delivery mode prior to IOL intervention is necessary to reduce adverse pregnancy outcomes related to emergency C/S delivery.

34. **Chagula, J. (2024). Proportion, associated factors and need for surgical intervention of hip dysplasia among children with cerebral palsy attending clinic at Muhimbili National Hospital. Muhimbili University of Health and Allied Sciences**.

ABSTRACT

Hip dysplasia is not uncommon among children with cerebral palsy (CP) especially those with spasticity. It may result into hip pain and impairment of functions. Customized therapy approaches are necessary based on the child's condition, as the deformity varies greatly depending on the child's CP type, CP topographic pattern, and gross motor function classification score. Early surgical intervention is essential in preventing hip dislocation and improve quality of life. In LMICs like Tanzania, there is a limited data to

show magnitude of hip dysplasia, making it difficult to establish standard treatment protocol. **Objective**: To determine proportion, associated factors and need for surgical intervention of hip dysplasia among children with cerebral palsy attending clinic at Muhimbili National Hospital. **Methods**: A descriptive cross-sectional study was conducted involving 206 children with CP attended clinic at MNH between June 2023 to December 2023.Ethical clearance was obtained from the MUHAS IRB. Participant parents or legal guardians provided a verbal and/or written informed consent prior to study enrollment A guided questionnaire was used to interview eligible participants; further examinations were also done including hip assessment, Standard AP x ray of Hip taken and was interpreted by principal investigator on RMP. Patients were assigned treatment group based on their RMP value according to standard literatures. The data were coded and entered into a statistical analyzing tool SPSS version 24. A variable with a P-value of 0.05 or less was considered statistically significant. Target population was patient with CP attending at MNH clinic. **Results:** 206 patients were recruited for the study, Of the study participants, 112 (54.4%) were male and 115 (55.8%) were over the age of five, with a range of 3 to 9. 155 (75.2%) had spastic type of CP, 100 (48.5%) had Quadriplegia pattern , and 74 (35.9%) had GMFCS IV & V. Hip dysplasia was found in 36 (17.5%) of the patients recruited and 3 (1.5%) of participants had hip dislocation, children with GMFCS IV and V had high risk of hip dysplasia 36.5% $p<0.001$, Spastic quadriplegia has high risk of hip dysplasia 44.1% $p<0.001$, Those with children with hip joint pain had higher risk of hip dysplasia by 38.9% $p<0.001$. Out of 26 children with hip dysplasia 69.4% needs surgical intervention. **Conclusion:** The results of this study indicate that a significant percentage of CP patients have hip dysplasia, and the majority require surgery intervention. Despite making numerous clinic visits to the pediatric MNH, large number of individuals with hip dysplasia were previously undiagnosed. This emphasizes the significance of the hip surveillance program, in which patients are evaluated by orthopedic surgeon according to their risk status and pelvic x-rays results. This helps in early identification and treatment of hip dysplasia.

Keywords: Cerebral palsy: Hip dysplasia: Associated factors: Surgical Intervention

35. **Chanai, A. (2024). Evaluation of field performance of panbiotm covid-19 antigen rapid test for detection of sars-cov-2 among covid-19 patients in Dar es salaam. Muhimbili University of Health and Allied Sciences.**

ABSTRACTS

Background: The COVID-19 pandemic challenged health system globally. RT-PCR is the gold standard for detecting the presence of SARSCoV-2 in clinical samples. Panbio^{TM} Ag-RDT have been widely used in Tanzania. This has greatly improved test turnover rates and significantly decreased the high technical demand of RT-PCR. However, there is no nationally field evaluation of the performance characteristics and reliability of the kits. This study assessed Sensitivity, Specificity, PPV.NPV, accuracy and agreement of Panbio^{TM} compared to RT-PCR.**Objective:** To evaluate the field performance of Panbio^{TM} antigen rapid test for the detection of SARS-CoV-2 among COVID-19 patients in Dar es Salaam.**Methodology:** A retrospective study was conducted used data from the COVID-19 surveillance data base, covering the period from January 2023 to September 2023. A total of 850 symptomatic patients records were reviewed, and 725 patients were enrolled as they had both Panbio^{TM} Ag-RDT and RT-PCR test results. Data were extracted from COVID-19 surveillance data base entered and cleaned by Microsoft Excel and analyzed by state version 15. Sensitivity, specificity, positive and negative predictive value and accuracy are expressed in percentage with the respective 2x2 table. Categorical variable were presented in frequency. Cohen's kappa statistics was used to calculate agreement between Panbio^{TM} COVID-19 AgRDT and the RT-PCR. **Results:** A total of 725 participants with mean age 36 ±23 were enrolled into the study. Majority of the participants were females (55.6%) , three quarters (74.8%) were inpatients and 25.2% were outpatients. The sensitivity,specificity, positive and negative predictive values of Panbio^{TM} COVID-19 AgRDT were 90%,(95%CI,73.5-97.9), 99.2%(95%CI, 98.3-99.8) 84.4% (95%CI,69.1-92.9) and 99.4%(95%CI,98.7-99) respectively. The accuracy of the test was 98.9% and agreement between Panbio^{TM} COVID-19 AgRDT and RT-PCR was significant (88 %.) **Conclusion:** The PanbioTM AgRDT test has high sensitivity and

specificity for identifying symptomatic COVID-19 patients. Its high accuracy and reliability make it a valuable public health tool in controlling the spread of the virus.

36. **Charle, A.C. (2024) Determinants of depression among psychoactive substance users at the methadone-assisted therapy clinic Tumbi Hospital, Pwani, Tanzania. Muhimbili University of Health and Allied Sciences.**

ABSTRACT

Background: Globally, substance use disorders, particularly opioid misuse, have increased. In Sub-Saharan Africa, notably Tanzania, a substantial number of individuals turn to injecting drug use. Despite the recognized efficacy of Methadone-assisted therapy worldwide, specific statistics for its use in Tanzania are limited. Objective: This study aimed to investigate determinants contributing to depression among psychoactive substance users attending a methadone clinic for treatment at Tumbi Hospital in the Pwani Region, Tanzania. Materials and **Methods:** The research adopted a hospital-based cross-sectional analytical design conducted in the Medically Assisted Therapy clinic at Tumbi Hospital in Pwani. Simple random sampling was used to select a total of 261 respondents. A structured questionnaire systematically gathered information on the study population's socio-demographic details and clinical characteristics, and the 9-item Patient Health Questionnaire (PHQ) evaluated depression. Bivariate and multivariate logistic regression were used to determine factors associated with depression. Variables with a p-value less than 0.05 were considered significant. **Results:** A total of 261 clients in the MAT clinic were included in the study. The respondent's mean age was 40.28 with a Standard Deviation (SD) of ±8.29 years with a males being the majority 256 (98.1%). The prevalence of depression was 193 (73.9%). Females had a fifteen times increased risk of experiencing depression, (adOR= 15.126, 95% CI: 1.511-151.456; P = .021). Participants with a history of incarceration were two times increased risk for depression (adOR of 2.371 (95% CI: 1.212-4.639; P = .012), and not using tramadol is associated with reduced risk of depression (adOR = 0.853, 95% CI: 0.121-0.530; P < .001). Additionally, having no one to share joy or sorrow was five times increased risk for

depression (adOR = 4.606, 95% CI: 1.182-17.953; P value = .028). **Conclusion:** Results show that there is a higher prevalence of depression among people who use substances while receiving methadone-assisted therapy. Females, those with a history of incarceration, not using tramadol as a substance, and not having someone to share sorrow with were more depressed than males. Recommendation: Regular screening for depression among substance users attending MAT clinic should be offered during the clinic visits. Psychoeducation and group therapy approaches should be utilized to address depression among them.

37. **Charles, A.J. (2024). Molecular Characterization of Coagulase-negative staphylococci isolated from neonates with sepsis at Mwananyamala Regional Referral Hospital. Muhimbili University of Health and Allied Sciences.**

ABSTRACT

Background: Coagulase-negative staphylococci (CoNS) have emerged as pathogenic bacteria causing bloodstream infection (BSI), particularly in people with immature immune status such as neonates. Single set of blood culture is collected in neonates hence becomes difficult to distinguish non-pathogenic and pathogenic CoNS. Their capacity to form biofilm is regarded as the major virulence mechanism that facilitates pathogenicity, horizontal gene transfer and impairs penetration of antimicrobial agents and immunologic response. **Broad objective:** To determine virulence genes (VGs) (*icaA*, *icaB*, *icaC*, and *icaD*) and antibiotic resistance genes (ARGs) (*blaZ*, *mecA,* and *aac(6')-Ie-aph(2'')-Ia*) expressed by CoNS isolated from neonates with sepsis at Mwananyamala Regional Referral Hospital (MRRH). **Methodology:** A cross-sectional laboratory-based study was carried out from January to June 2024, using archived CoNS isolated from neonates with sepsis previously admitted at MRRH. VITEK® MS was used for speciation, and Polymerase Chain Reaction was performed for detection of VGs and ARGs. Amplicons were separated by Agarose gel electrophoresis and bands were visualized by Molecular Imager Gel Doc XR**.** Statistical analysis was performed using Statistical Package for Social Science software version 23.0. Descriptive statistics such as frequency tables were

computed to describe categorical variables which were species, virulence genes, and ARGs distribution among the isolates. **Results:** A total of 70 archived CoNS isolates were included in the study. Out of 70 CoNS six different CoNS species were identified with *S. epidermidis* 27 (36.8%) being the predominant isolate followed by *S. haemolyticus* 24 (34.3%). Virulence genes responsible for biofilm formation (*ica* genes) were detected, of which 90% of CoNS species harbored all *ica* genes (*icaADBC*) in the *ica* locus and were considered as pathogenic species. A high proportion 61 (87.1%) of CoNS isolates harbored all three ARGs against the commonly prescribed antibiotics, where *mecA* 69 (98.6%) was the most prevalent gene detected followed by *blaZ* 67 (95.7%). **Conclusion and recommendation**: This study reveals CoNS species causing neonatal sepsis are predominantly *S. epidermidis* followed by *S. haemolyticus* and that most of them (90%) are pathogenic with a high carriage of ARGs *blaZ*, *mecA,* and *aac (6')-Ie-aph(2'' Ia* which confer resistance to the most commonly prescribed antibiotics including penicillin, methicillin, and gentamycin respectively.

38. Charles, J. M. (2024). Knowledge on first aid of chemical eye injuries and associated factors among chemical industrial workers in Dar es salaam, Muhimbili University of Health and Allied Sciences.

ABSTRACT

Background: Chemical eye injury refers to tissue damage that occurs following exposure to chemicals and it is a true ocular emergency. Globally, the incidence ranges from 7.7% to 18%, and in Africa, it is about 3.5% to 8.1%. With industrialization, the incidence among industrial workers is expected to rise. Effective first aid management by industrial workers is crucial, yet their knowledge in this area is generally inadequate, ranging from 14.4% to 69.2% worldwide. Factors affecting this knowledge include first aid training, participation in first aid provision, education level, and years of work experience. In Tanzania, chemical eye injuries are not uncommon, with many patients referred to tertiary hospitals in advanced stages, often leading to complications despite maximum hospital management. Despite this fact, knowledge on first aid and associated

factors on chemical eye injury among chemical industrial workers were not well known. Establishing evidence-based strategies to enhance the knowledge on first aid for chemical eye injuries was essential for better first aid management of chemical eye injuries in industrial settings. **Aim:** This study assessed knowledge on first aid management of chemical eye injuries and associated factors among chemical industrial workers in Dar es Salaam. **Methodology:** An analytical cross-sectional study was conducted from June to December 2023 in 7 chemical industries located in Dar es Salaam. These industries were from 6 groups of chemical industries, namely, cement, soap and detergent, pesticide, paint, fertilizer, and cosmetics industries. A stratified random sampling method was used in two stages; the first stage involved random selection of industries, and the second stage was random selection of participants from each selected industry. A structured interviewer administered questionnaire was used for data collection, and data were analyzed by SPSS version 27. There were 11 questions on knowledge with scores of 1 and 0 for correct and incorrect responses, respectively. Bloom's cut-off point was used in which those who scored 80-100% were considered to have adequate knowledge while less than that inadequate. The chi-square ($\chi 2$) test and Fisher's exact test were used to check for evidence of association, and logistic regression was used to check for the strength of association between level of knowledge and its associated factors. A P-value of <0.05 and a 95% confidence interval were considered statistically significant. **Results:** A total of 300 participants were recruited in this study, and males were more (68.7%). Most participants had secondary education (39.7%) and were aged between 18 and 30 years (43.7%). The level of knowledge among the study participants was high (81% IQR 63). High level of education (AOR=1.73, 95%CI(1.91-2.11)), being a machine operator or chemist (AOR=1.18,95%CI (1.09-1.26)), training on first aid management (AOR=1.10,95%CI (1.04-1.16)), working in the fertilizer industry, and participation in first aid provision (AOR=1.55,95%CI(1.3-1.82)) were associated with a high level of knowledge on first aid management of chemical eye injury. **Conclusion and recommendations:** The level of knowledge among workers in chemical industries was high. Factors such as receiving information from occupational safety educators, being trained on first aid, participating in first aid provision, witnessing chemical eye injury,

and a high level of education were associated with a high level of knowledge on first aid for chemical eye injuries. Upholding and maintaining first aid training for industrial workers is encouraged to enhance knowledge and preparedness for emergency chemical eye injury.

39. **Cheyo, H. (2024). Factors influencing the length of hospital stay among pediatric burn injured patients at Muhimbili National Hospital. Muhimbili University of Health and Allied Sciences.**

ABSTRACT

Background: Pediatric burn injuries involve complex factors that influence hospital stay durations, including burn severity, patient demographics, medical interventions, and healthcare resources. Developed countries generally have shorter hospital stays due to advanced medical care, while developing nations experience longer stays due to resource limitations. This research examines how these variables interact to shape treatment outcomes. **Objective:** Determining factors influencing the Length of hospital stay among pediatric burn Patients at MNH. Methodology: A hospital based prospective cross-sectional study was conducted involving pediatrics burn injured patients on discharge from the age of 2month to 10years who fitted inclusion criteria. The data was collected using a well-structured checklist and other information were obtained from the file and computer records. The collected data were carefully organized and analyzed using SPSS version 25. Quantitative data was examined for range, mean, median and standard deviation. The Chi-square test was used to compare qualitative data, and determining the association. Bivariate and Multivariate logistic regression was conducted to determine the predictors of length of hospital stay. The interpretation of results was guided by a significance level of $p< 0.05$. **Results:** The study involved 94 pediatrics burn injured patients who fits inclusion criteria, who had almost equal gender distribution with 52.1% being male and 47.9% female with mean age of 3.15 years. and majority being toddlers 42.6% and from referral hospitals 85.1%. The mean length of Hospital stay was 31.37 days with standard deviation of 24.37days. At Multivariate analysis the variables that

independently predict prolong hospital stay were Surgery done (AOR=4.07, 95%CI: 1.76-6.38, P=0.001) and Total body surface area (TBSA) more than 20% and TBSA between 10%-20% (AOR=3.936, 95%CI: 0.753-7.12, P=0.015 and AOR=3.373, 95%CI: 0.871-5.86, P=0.008 respectively). **Conclusion:** Surgery done and Total Burn Surface area (TBSA) have emerged as independent predictors where they have positive correlation with prolong hospital stay and was statistically significant. Burn injury degree, caloric intake, and site of burn injury, Inpatient complication and blood transfusion they were significant with crude ratio on bivariate analysis, these factors should not be neglected while tailoring interventions, including early enteral feeding initiation and comprehensive wound care protocols, to mitigate LOS and improve patient outcomes. **Recommendation:** With majority of factors seen and the influence they have on LOS, managing patient with Burn Injuries especially children should be seeing and targeted as a daily triaging and review on the factors so as to be able to improve the overall good outcome. Furthermore, there is a need for improvement of Burn injuries care on the referring Hospital to improve the continuum of care.

40. **Chiguma, L. S. (2024). Breast cancer knowledge among doctors and nurses at Ilala district public hospitals in Dar es salaam. Muhimbili University of Health and Allied Sciences.**

ABSTRACT

Background: Breast cancer is currently the most common cancer globally, accounting for 12.5% of all new annual cancer cases worldwide. In low- and middle-income countries, especially in sub-Saharan Africa, late-stage diagnosis of breast cancer is a major problem. For effective screening and early diagnosis, healthcare providers must have adequate knowledge and awareness. The study aimed to determine the level of breast cancer knowledge among doctors and nurses at Ilala district public hospitals. **Methodology:** The study employed a quantitative methodology with an analytical cross-sectional design. The participants included doctors and nurses from Mnazi Mmoja and Kivule district hospitals. Stratified random sampling was applied to select the

participants, with a total sample size of 185. Data collection was conducted using a self-administered questionnaire consisting of 36 structured questions. Statistical analysis was performed using IBM SPSS version 27. Descriptive statistics were utilized to address the first **Objective:** For the second objective, Chi-square tests and Robust Poisson regression were conducted to evaluate the associations between independent and dependent variables. A p-value of less than 0.05 was considered statistically significant. **Results:** The study found that 125(73%) participants had high breast cancer knowledge. Among them, 76(88.4%) doctors demonstrated a high level of knowledge, compared to 55(44%) nurses, who had a lower percentage. A chi-square test identified a statistically significant association between education level and breast cancer knowledge (p0.05). Participants with bachelor's degrees were 1.12 times more likely to have breast cancer knowledge than those without bachelor's degrees. **Conclusion and recommendation:** This study revealed a high level of breast cancer knowledge among doctors and nurses. A disparity was observed between doctors and nurses such that the doctors demonstrated a higher level of breast cancer knowledge compared to vi nurses. Education level and profession were identified as factors associated with breast cancer knowledge. Targeted educational initiatives aimed at doctors and nurses on breast cancer should be developed by the Ministry of Health.

41. **Chilale, M. E. (2024). Client Satisfaction with Critical Care Service and Associated Factors in Tertiary Teaching Hospital in Dar es Salaam, Tanzania-2024. Muhimbili University of Health and Allied Sciences.**

ABSTRACT

Background. Currently, patient/family-centered inferences are valued as the primary outcome indicator and a global standard mark of the distinctive and vital nature of the standard healthcare system. Significantly, the quality as acknowledged by patients and their families is a constant focus. In the intensive Care Unit (ICU), majority of patients are unable to make a choice on their own, thus family members act as surrogates for making critical decisions and as evaluators of the quality of treatment. Evaluating

standard care in such a context includes client satisfaction as the primary goal and treating the client as a whole. **Aim**: This study aimed at assessing the level of client satisfaction with intensive care services and associated factors at Muhimbili Orthopedic Institute. **Methods**: This was an analytical, cross-sectional study. A consecutive sampling technique was used to enroll study participants. The targeted population was patients or family members, however none of the patient was included in this study because they were unable to communicate. A Family Satisfaction-24 Intensive Care Unit (FS24-ICU) questionnaire was used, containing 14 items assessing the satisfaction of care, and 10 items evaluating satisfaction with decision-making. Each question was answered on a 5-point Likert scale that corresponds to a percentage score. STATA version 15.1 was used to analyze the collected data. Clients who scored 50% and above were considered satisfied and those who scored below 50% were considered dissatisfied. **Results:** The quantitative analysis revealed that 145 family members participated in the study. Eight two (56.6%), were women. Among participants, 125 (86.2%) were satisfied with the critical care services provided at Muhimbili Orthopaedic Institute -Intensive Care Unit, while 20 (13.8%) were not. Regarding the level of satisfaction approximately 59 (40.7%) were completely satisfied, and 66 (45.5%) were mostly satisfied with the critical care services provided in MOI ICU. **The FS-care subscale**: The items with the greatest mean score in terms of satisfaction were patient pain management (42.1% were completely satisfied,46.9% were mostly satisfied) and treating the patient with politeness, respect, and compassion (44.1% completely satisfied, 44.8% mostly satisfied). The item that received the lowest score was the waiting room's atmosphere (37.2% completely satisfied, 40.0% mostly satisfied). **The FS-DM subscale:** In our study, honesty of information to family members about their patient's condition (49.0%completely satisfied, 40.0% mostly satisfied), and the willingness of ICU staff to answer family member questions (44.8.1% completely satisfied, 42.1% mostly satisfied) received the highest score on the FS-DM. However, 39.3% completely satisfied, 42.1% mostly satisfied with the way the critical care workers explained things to them to their understanding. **Associated factors:** In general context, the level of satisfaction with critical care services provided at MOI-ICU is dependent on age (p=0.020), sex (p=0.006),

previous ICU experience (p=0.005), and living with the patient before ICU admission (p=0.021). **Conclusion and recommendation:** The majority of the research participants expressed high levels of satisfaction with the medical care and decision-making subscales for their critically ill relatives in intensive care units. Family members were less satisfied with the waiting room's atmosphere and the way the critical care workers explained things to family members in a way they could understand the information. We recommend that intensive care staff should provide improved information to family members regarding their loved one's condition. Critical care workers should explain things (about the patient's tests, treatments, and therapy) to the family members (non-medical) in a way they can grasp (understanding of the information). In addition, ICU waiting area, should be provided for family members.

42. **Chiloleti, G.P. (2024). Proportion, quality of life, and factors associated with perinatal urinary incontinence at Muhimbili National Hospital. Muhimbili University of Health and Allied Sciences.**

ABSTRACT

Introduction: Perinatal Urine Incontinence (PUI) is a condition affecting around 200 million women worldwide. It is hypothesized that it has a multifactorial etiology that includes hormonal changes, pregnancy, urethral angle changes, and childbirth-related forces. The prevalence of PUI ranges from 32% to 64%. These conditions affect the quality of life, leading to significant physical and emotional distress, low self-esteem, social interactions, postpartum depression, and anxiety. Determination of factors associated with PUI and providing appropriate support and treatment options for women experiencing perinatal urinary incontinence can improve the well-being of those affected. **Objectives:** The aim is to assess the proportion, quality of life, and factors associated with perinatal urinary incontinence among pregnant women admitted to the Muhimbili National Hospital. **Methodology:** Prospective cross-sectional study. A structured questionnaire was given to all 354 pregnant women in the perinatal period, and the ICIQ-UI SF Tool was given only to individuals who had urine incontinence to evaluate their

quality of life. Descriptive statistics and categorical data were described by frequency tables, graphs, and percentages, and numerical variables by mean, median, and standard deviation. Bivariate logistic regression was used to obtain variables that have an association with PUI. Multivariate logistic regression for the control effect of confounders. **Results:** The mean age of the participants was 30 years (range 30–34 years). The overall proportion of PUI among the participants was 59 [16.7%]. Of the total participants with PUI, 28 (49.1%) had SUI, 9 (15.8%) had UUI, MUI, and 1 (1.8%). Overall, among the participants who had PUI, quality of life was moderately affected in 31 (52.5%) participants, followed by 17 (28.8%) whose QoL was slightly affected, 10 (16.9%) whose QoL was poor, and only 1 (1.7%) whose quality of life was very poor. In the multivariable logistic regression model, factors associated during the perinatal period were significantly associated with PUI, with a p-value <0.05. A significant association between UI and a normal BMI, pre-obesity [AOR 1.351 95% CI 1.1611.765], grand multipara [AOR 1.092 95% CI 1.027-1.323], and a previous history of cesarean section [AOR. 5.126 95% CI 2.081-12.628] **Conclusion:** Perinatal urinary incontinence significantly affects morbidity at different levels, even though it is not a life-threatening disease. The burden of UI on daily life activities, sexual function, interpersonal relationships, social interactions, and psychological well-being may be substantial; however, women's different perceptions may change their relative impact on QoL

43. **Chingoma, D. (2024). Assessment of consistency of insecticide-treated mosquito net use among children under five years in Mtwara district council. Muhimbili University of Health and Allied Sciences.**

ABSTRACT

Background: An Insecticide-treated net (ITN) is a pre-treated net from the factory, that does not need additional treatment. ITNs have emerged as the primary tool for controlling malaria transmission in Africa. They offer both physical and chemical defense against mosquito bites, effectively preventing users from malaria infection. Consistent and widespread use of ITNs significantly lower malaria transmission within communities, a

phenomenon known as the "mass effect". In the Mtwara region, which is located in the southern part of Tanzania, malaria prevalence remains very high despite ownership and the use of insecticide-treated nets as a major intervention against malaria transmission. Mtwara is the second region in Tanzania with the highest prevalence of Malaria among children under five years. Malaria prevalence for children under 5 years in Mtwara is 20% while the national prevalence is 8%. The level of ITN ownership in Mtwara is 74% and ITN use among children under 5 years living in households with at least one ITN is 92.4%. While the majority of households own ITNs and use them, little was known about the consistency of use of these nets. This study was an effort to bridge that knowledge gap. Insecticide-treated nets provide optimal protection against malaria when used consistently while inconsistent use of nets has been shown to limit their protective benefits. **Methodology:** A cross-sectional study design was employed. This study involved 330 caregivers of children under five years in Mtwara District, whereby a random sampling method was used to determine households that were involved. Questionnaires and checklists were used to collect data, in which questions for face-to-face interviews were asked of caregivers of children under five years, while observations were made during home visits. The collected data were analyzed by using STATA version 17.0 **Results:** The results from this study revealed that 83.9% of children under five years used ITNs every night while 16.1% did not use ITNs every night. Factors associated with consistent utilization of ITNs in this study included the education status of the caregiver and the number of nets in the household. Only 5.8% of respondents reported that they washed the mosquito nets every 3 months as recommended, indicating that a large number of caregivers tend to neglect this recommendation. Reasons for inconsistent ITN use that were reported included; dirty nets, hot weather, tiredness, and nets being worn out or having holes. **Conclusion:** The prevalence of consistent ITN use in Mtwara DC was low. Possessing more than 2 ITNs in the household and having a formal education positively associated with consistent ITN use among children under five years, implying the importance of education, and a need for improving household ITN supply, to improve consistent ITN use. Ongoing efforts are needed to raise awareness

about the significance of using ITNs every night for effective malaria prevention, and proper handling of the ITNs for them to last longer in Mtwara District.

44. **Cuthbert G. (2024). Prevalence and factors associated with maternal psychological distress, among pregnant women attending antenatal care at Muhimbili National Hospital. Muhimbili University of Health and Allied Sciences.**

ABSTRACT

Background: Pregnancy represents a period of great transition in women, taking into account numerous physiological, emotional, and social changes. Maternal psychological distress indicates an early sign of potential challenges in mental health, affecting approximately 10-20% of women during this critical period. In Tanzania, there is a gap in our understanding of the extent of the burden, and underlying factors contributing to maternal psychological distress during pregnancy. Gaining a deeper understanding of maternal psychological distress during this crucial period is essential, to shed light on the scope of maternal mental health within clinical settings during antenatal care. **Broad Objective:** The study aimed to determine the prevalence and factors associated with maternal psychological distress among pregnant women receiving antenatal care at Muhimbili National Hospital. **Methodology:** This was a hospital-based cross-sectional study conducted in a sample of 287 pregnant women who were attending antenatal care at Muhimbili National Hospital. A random probability sampling technique was used to recruit study participants. Data were collected using a structured social demographic and clinical questionnaire; the Oslo Social Support Scale (OSSS-3) was used to assess social support and the Conflict Tactic Scale (CTS) for assessment of intimate partner violence. The outcome of maternal psychological distress, was measured by, the Kessler Psychological Distress Scale (K10). Statistical analysis was performed using SPSS version 23.0, employing descriptive statistics, and an association between variables was analyzed with bi-variate and multivariate logistic regression. A statistical significance declared at p value< 0.05 with a 95% confidence interval. **Results:** The prevalence of maternal psychological distress was found to be 32.1%. Risk of maternal psychological

distress in young adult mothers below 24years of age was three times higher as compared to those with mature age (AOR = 3.8, 95% CI, 1.05, 13.75; p, 0.04), those reported poor perceived levels of social support were seven times more likely to experience maternal psychological distress compared to those with strong social support (AOR = 7.37, 95%CI, 2.9, 18.6; p, 0.00). **Conclusion:** These findings indicated that maternal psychological distress is common particularly within the context of antenatal care settings, with decreasing age and poor social support being significant risk factors. Incorporating mental health services within routinely antenatal care will facilitate awareness, provide opportunities for early assessment and timely interventions, thus promoting better maternal and child health outcomes.

45. **Cyprian, F.K. (2024). Prevalence and laterality of supraorbital ethmoid cell and its relationship with the anterior ethmoid artery among patients who underwent paranasal sinus computed tomography scan at Muhimbili National Hospital. Muhimbili University of Health and Allied Sciences.**

ABSTRACT

Background: The anterior ethmoid artery (AEA) plays an important role in functional endoscopic surgery (FESS) as one of the surgical landmarks, it's a branch of the ophthalmic artery. The position of the anterior ethmoid artery about the ethmoid roof is very variable as it courses through the ethmoid labyrinth, it can be altered by the presence of supraorbital ethmoid cells, thus, the artery becomes vulnerable to iatrogenic injuries and very serious complications such as severe bleeding. To prevent iatrogenic injury to the base of the skull, a surgeon's knowledge of the anatomy of the ethmoid sinuses and orbital plate of the frontal bone is of utmost importance during the opening into the sinuses. The possibility of iatrogenic injury during functional endoscopic sinus surgery exists due to the presence of supraorbital ethmoid cell pneumatization, which may change the position of the anterior ethmoid artery as it courses within the ethmoid cavity. Objective: To determine the prevalence and laterality of supraorbital ethmoid cell and its relationship with the anterior ethmoid artery among patients who underwent paranasal

sinus computed tomographic scan at Muhimbili National Hospital in Tanzania. Material and **Methods:** A cross-sectional retrospective hospital-based study was conducted at Muhimbili National Hospital, radiology department, for a duration of six months, from December 2023 to May 2024, and included 316 paranasal sinus computed tomographic scans of patients aged 12 years and older. A convenience sampling method was employed, whereby data collection was done from all paranasal sinus computed tomographic scans that met criteria from the 1st of January 2020 to the 31st of December 2022. Data collection checklists were used to record the age, sex, presence, and laterality of the supraorbital ethmoid cell, as well as the position of the anterior ethmoid artery about the base of the skull. **Results:** A total of 316 paranasal sinus computed tomographic scans were included in this study, of whom 139 (44.0%) were males and 177 (56.0%) were females, with a female-to-male ratio of 1:3.1. The paranasal sinus computed tomographic scans studied were from patients aged 12 to 90 years, with a median age of 40 (28,53). The most common age groups were 32–51 years and 12-31 years (40.8% and 32.9%, respectively). The prevalence of supraorbital ethmoid cells was found to be 61 (19.3%). Supraorbital ethmoid cells were more common in males as compared to females by 25.2% and 14.7%, respectively. Among the 61 paranasal sinus computed tomographic scan images, 68.9% were found to have bilateral supraorbital ethmoid cells, while 21.3% and 9.8% were found unilateral on the right and left sides, respectively. Males accounted for bilateral supraorbital ethmoid cells by 74.2%. The anterior ethmoid artery was found to be Group II by 45.6%, followed by Group I and Group III by 31.1% and 23.3%, respectively. The majority of the computed tomographic scans in Groups II and III were males, at 53.3% and 28.3%, respectively. Contrary to Group I, in which 48.8% were females**. Conclusion:** The prevalence of supraorbital ethmoid cells was found to be 19.3%, with a high proportion of bilateral distribution of 68.9%. A large percentage of Group II anterior ethmoid arteries was found to be related to supraorbital ethmoid cells by 45.6%. The position of the anterior ethmoid artery in the ethmoid labyrinthine varies between the two sides of the same patient depending on the laterality of the supraorbital ethmoid cell, so this variation is very crucial to be known by a surgeon before and during endoscopic sinus surgery. **Recommendations:** Owing to a

significant supraorbital ethmoid cell prevalence among the population, Clinicians should be aware to include preoperative evaluation of the PNS CT scan for the presence and laterality of supraorbital ethmoid cell and the position of the anterior ethmoid artery in patients undergoing endoscopic sinus surgery to minimize iatrogenic injuries and complication. Radiologists should also be aware that PNS CT scans with supraorbital ethmoid cells have to be reported. More emphasis on the use of preoperative paranasal sinus computed tomographic scans in the management guidelines of patients requiring endoscopic sinus surgery. Due to Tanzania's data shortage, additional research at various health institutes throughout the nation is advised.

46. **Darlington, E. (2024). Prevalence of associated risks for coronary artery disease development, among asymptomatic diabetic patients attending clinic at Muhimbili-Mloganzila National Hospital. Muhimbili University of Health and Allied Sciences.**

ABSTRACT

Background: In Tanzania, cardiovascular disease deaths account for 65% of all, with all likelihood of a higher proportion of diabetes mellitus patients, given that they frequently experience myocardial ischemia, which is always asymptomatic (silent), as postmortem findings report. Thus, the burden of these sudden deaths may likely be due to undiagnosed coronary artery disease; hence, screening for early recognition of risk factors using a low-cost screening method would be an essential effort to save lives when high-tech diagnostic imaging technologies are not widely available. **Aim:** To determine the Prevalence of potential associated risk of asymptomatic coronary artery disease among diabetic patients at Muhimbili National Hospital using a low-cost screening algorithm. **Materials & Methods:** An analytic cross-sectional study investigated 249 diabetic patients by simple random sampling for asymptomatic coronary disease potential risk by the adapted Framingham Risk Score (FRS) tool at the outpatient clinic at Muhimbili National Hospital, Mloganzila. Data was then cleaned and exported to the Statistical Package for the Social Sciences version 23, which was used for analysis **Results:** Out of two hundred and forty-nine diabetic patients, 163 (65.5%) were females

with a mean age of 61±10. (SD) years. The Prevalence of diabetic patients at risk of developing coronary artery disease at the highest estimate was 64% (n=160) (95% CI:58.0 – 70.0), and those with low to moderate risk was n=89; 36% 95%CI: 30.0 – 42). Factors independently associated with increased risk of developing coronary artery diseases were waist circumference > 94 cm; AOR 3.8; 95%CI: 1.4 – 10; the Body Mass Index above >24.5kg/m², [AOR 4.6;(95%CI:1.8 – 11.7)], low-density lipoprotein [AOR 2.3;(95% CI:1.0-5.3)] and physical inactivity [AOR4.6; (95%CI:1.8 -11.7)] **Conclusion**: More than 60% of diabetic patients have a higher risk of developing cardiovascular diseases if the modifiable cardiovascular risk factors not addressed. We recommend routine screening for cardiovascular risk among diabetics and community preventive interventions to curb unhealthy lifestyles. **Keywords:** Framingham risk score; coronary artery disease; Diabetes Mellitus, risk factors, and Muhimbili National Hospital-Mloganzila.

47. **Daud. S. (2024), Clinical profile and predictors of mortality of patients admitted with renal dysfunction in the internal medicine department at Muhimbili National Hospital-Mloganzila, Tanzania. Muhimbili University of health and allied science.**

ABSTRACT

Background: Renal dysfunction is a major public health problem worldwide, with epidemiological variations from one population to another. It is associated with poor outcomes including high morbidity, high mortality, and long hospital stays especially in low and middle-income countries. **Objectives***:* The study aimed to determine the clinical profile and predictors of mortality of patients admitted with renal dysfunction in the internal medicine department at Muhimbili National Hospital –Mloganzila.**Materials and methods*:*** This was retrospective cross-sectional study to investigate the clinical profile and predictors of mortality of patients admitted with renal dysfunction in the Internal Medicine Department at Muhimbili National Hospital Mloganzila between January 2023 to June 2023. The Statistical Program for Social Science (SPSS) version 27 package was used for analysis. Continuous variables were summarized by mean,

median, standard deviation, and interquartile range while categorical were summarized by using frequency and percentages. Predictors were determined by multiple logistic regression analysis and variables with p value of less than 0.05 was considered significant. **Results:** 122 participants of admitted patients had renal dysfunction. The mean age of participants was 50.94±18.46 years. More than half of the study participants were male 66(54.1%). Hypertension was the common comorbidity 76 (62.3%) followed by diabetes mellitus 30 (24.6%) and malignancy 13 (10.7%) of the renal dysfunction patients admitted. 88 (72%) were discharged, while 34 (28%) died. Hemodialysis was performed in 28(23 %) patients. 89 (73%) of patients had anemia, hyponatremia 43 (37.0%), and hyperkalemia 54 (47.8%). Female patients had a reduced risk of mortality (aOR=0.143, 95% CI: 0.040-0.505, P=0.003), no formal education had increased risk of mortality (aOR=4.145, 95% CI: 1.10-17.285, P=0.049). Moreover, patients not on maintenance hemodialysis had an increased risk of mortality compared to those who were on hemodialysis (aOR=6.474, 95% CI: 1.05-42.632, P=0.048). **Conclusion:** The study indicated that, 89 (73%) of patients had anemia, hyponatremia 43 (37%), and hyperkalemia 54 (47.8%) and also an older adult, predominantly male, constitute the majority of patients, with hypertension being common comorbidity. The study identified significant predictors of mortality, including sex, education level, length of hospital stays, and maintenance hemodialysis. Further prospective study is needed to assess survival rates and factors associated with survival among patients with renal dysfunction.

48. **Deodatus, M.K. (2024). Morphometric dimensions of distal femur and proximal tibia inference to knee joint prosthesis design in Tanzania subpopulation. Muhimbili University of health and allied sciences.**

ABSTRACT

Introduction: The knee joint is a hinge type of synovial joint, which mainly allows for flexion and extension and a small degree of medial and lateral rotation. It is formed by articulations between the patella, femur and tibia. The knee joint is fundamentally prone to chronic disease conditions of whom knee replacement have proven to be an effective

definitive management. Total knee replacement involves precisely replacing the articulating surfaces of the joint with prosthetic designs. In our settings, however, scanty data is available on knee morphometric dimensions which are essential in selecting **patients'** specific knee joint prostheses. The currently available knee joint prosthetic models are based on western morphometries. In this study therefore we hypothesize that, the knee joint morphometries in our population **are** different from those from the western population. **Purpose of the study:** This study aimed to obtain preliminary morphometric measurements that are Tanzanian population specific. **Broad objective:** To determine the morphometric dimensions of the distal femur and proximal tibia of the Tanzanian subpopulation. Rationale of the study**:** to establish preliminary morphometric dimensions that will be useful in designing Tanzanian population specific prostheses**Materials and Methods:** The femur and tibia, were carefully selected and the intended morphometrics were measured. Furthermore, a skilled radiologist took and examined magnetic resonance images of a normal adult Tanzanian knee. The data were entered into Excel workbook sheets (Microsoft Office Excel; Microsoft Corporation, US; version 2020). Statistical Package for Social Sciences (version 23.0; SPSS Inc., Chicago, IL) was then used to clean and analyze the data. Measures of dispersion were among the statistical analyses performed. To ascertain whether there is a statistically significant difference in the morphological measurements between the sexes, a student's t test for equality of means was conducted. **Results:** The mean aspect ratio of the femur was 1.13 while Tibia was found to have mean aspect ratio of 1.38. Further there was a statistical difference between male and female morphometrics in the proximal tibia, being more significant in male p=0.003. **Conclusion:** The anatomical data collected in this study provides a preliminary data about the morphometry of dry adult distal femur and proximal tibiae, which will provide the basis for designing the optimal knee prosthesis in knee arthroplasty for Tanzanian population into consideration as a small sized prosthesis may show mediolateral under sizing and larger sized prosthesis may show mediolateral overhang which will lead to poor otucomes.

49. Dossajee, U.M. (2024). Neuroimaging patterns of structural brain anomalies and associated factors in children with spine bifida attending Muhimbili Orthopaedic Institute and Muhimbili National Hospital, Dar es Salaam, Tanzania. Muhimbili University of Health and Allied Sciences.

ABSTRACT

Background: Spina bifida (SB) is a neural tube defect that occurs as a result of incomplete closure of the neural tube during the fourth week of embryonic development. It is the most common and most complex non-fatal neurological birth defect. This can result in a range of physical and neurological impairments. Despite its prevalence and impact, there is little data on SB neuroimaging patterns and associated factors. **Objective:** The main aim of this study was to explore spina bifida patterns, brain anomalies, and associated factors. **Methodology:** From June 2022 to February 2024, an extensive cross-sectional study was conducted at Muhimbili Orthopaedic Institute and Muhimbili National Hospital-Upanga. Maternal-child clinical data, intra-operative Endoscopic Third Ventriculostomy (ETV), and brain and spine MRI data of 90 children with spina bifida were collected and analysed using SPSS version 26. The analysis employed descriptive statistics, binary, and multinomial logistic regression, with a significance level set at p-value < 0.05. **Results:** 60% of the study participants were males. The majority of the study participants (75.6%) were neonates, with a median age of 9.5 days and interquartile range of 4.5 days. 27.8% (25/90) were born with a low birth weight (BW < 2500g). A total of 17 (18.9%) study participants are the fourth or older child in their family. All children had SB aperta, with most having myelomeningocele (86.7%). Chiari malformation (93.3%) and hydrocephalus (88.9%) were the most prevalent brain anomalies. Children with upper SB lesion level and larger defect span had a higher occurrence of abnormal corpus-callosum, cavum-septum-pellucidum, and cerebellum (p-value< 0.05). Male sex (OR 5.8; 95%CI 1.0 – 33.1; p-value 0.049) and maternal anaemia (OR 24.0; 95%CI 4.5 – 128.3; p-value < 0.001) were associated with higher odds of having an upper SB lesion level and larger defect span. The presence of intraventricular septations on MRI correlated well with turbid CSF on ETV (p-value

0.045). **Conclusion:** xiii There was significant diversity in associated brain anomalies among spina bifida patterns. Higher occurrence of anomalies is noted with upper SB lesion level and larger defect span. Maternal anaemia and male sex are independent risk factors for severe spina bifida. Brain MRI may help to predict intraoperative ETV findings. **Recommendations:** Findings from this study highlight the importance of detailed CNS evaluation in children with spina bifida. The association of severe forms of spina bifida with maternal anaemia underscores the importance of pre-conceptual folic acid in the prevention of neural tube defects in Tanzania. Further studies on the cognitive and functional outcome of children with spina bifida are recommended.

50. **Edom, R.M. (2024). Retention of HIV-exposed infants in care and its influencing factors in Mbeya and Songwe regions: a retrospective study Muhimbili University of Health and Allied Sciences.**

ABSTRACT

Background: The retention of HIV-exposed infants in care programs is critical for preventing mother-to-child transmission and ensuring timely diagnosis and early initiation of treatment among the HIV exposed infants. **Objectives:** This retrospective study examines the retention of HIV-exposed infants and asses the influencing factors in the Mbeya and Songwe regions of Tanzania. **Methodology:** The retrospective study involved data extracted from the study database and Mothers locator's forms collected from mothers enrolled in the LIFE study from 2019 to 2022 in 14 health facilities in Mbeya and Songwe regions. Key variables included maternal HIV status, maternal HIV disclosure status, maternal age, maternal education, maternal timing of HIV diagnosis, distance to healthcare facilities and socio-economic factors. **Results:** The study results show 85% of the infants were retained in PMTCT care at 18 months follow up. The odds of being retained in PMTCT were higher in older compared to younger mothers. Also, odds of retention of HIV exposed infants were high in mothers with secondary education or higher compared to the mothers with primary education. **Conclusions:** Findings from this study show that a large proportion of HIV exposed infants were retained in PMTCT

care at month 18 follow up in Mbeya and Songwe regions. The retention of HIV exposed infants is influenced by multidimensional factors such as maternal sociodemographic factors and health facilities accessibility factors. Efforts should focus on strengthening health services based on maternal needs and follow-up mechanisms at the health facility level to ensure timely diagnosis of HIV and enhance the engagement of HIV-exposed infants in care throughout the PMTCT continuum.

51. Elius, A. (2024). Third molar impaction pattern and associated sagittal malocclusion among Tanzanian patients. Muhimbili University of Health and Allied Sciences.

ABSTRACT

Background: Impacted teeth are teeth that fail to erupt to their normal occlusal level due to barriers in eruption path, caused by inadequate space in the maxillary and mandibular arch. Third molars are among the most common impacted teeth. Impacted teeth may be associated with pain and malocclusion, affecting orthodontic treatment planning and treatment outcome. In Tanzania, studies that have assessed third molar impaction patterns as they relate to sagittal malocclusion, are either non-retrievable or scarce in Tanzania. **Aim**: This study aimed to assess the third molar impaction pattern and associated sagittal malocclusion among orthodontic patients who attended for orthopantomograms, at the Muhimbili University of Health and Allied Sciences (MUHAS) Dental Radiology unit in Dar es Salaam, Tanzania. **Material and methods**: This was an analytical cross-sectional study conducted at the MUHAS Dental clinic. Data was collected through a clinical examination, orthopantomograms (using the Winter's third molar impaction categorization) and lateral photographs assessment. Data analysis was done using SPSS version 25.0 software. Frequency distributions, cross-tabulations and Modified Poisson Regression analyses were done for univariate, bivariate and multivariate analyses, respectively. The statistical significance was set at $p<0.05$ and the Confidence Interval was at 95%. **Results**: The analyzed data consisted of 258 participants; females were 57%. The mean age was 33.38±14.38 years. As per Winter's angulation, the mesioangular third molar impaction pattern was the most prevalent, occurring in 26.4% of the participants.

Majority of the participants (74.4%) had Class I Angle's molar relationship. As for the facial profiles, a greater proportion of the participants (66.3%) had Class I skeletal pattern. The presence of anterior crossbite and increased overjet, were in 6.2% and 32.9% of the participants, respectively. Age of the patient and Angle's malocclusion were significantly related to third molar impaction patterns *(p<0.05).* Also, patient's facial profile was significantly related to Winter's impaction pattern (*p<0.05)*. In Modified Poisson Regression analysis, none of the factors were significantly related to having a Winter's third molar impaction (*p>0.05)*, although having a younger age was almost significantly related to having the third molar impaction (aOR=1.407, CI (0.968-2.044), *p=0.073*). **Conclusion:** The most prevalent third molar impaction pattern was the mesioangular Winter's angulation. In the bivariate analysis, the mesial angular third molar impaction pattern was significantly associated with the patient's facial profile (skeletal pattern) Class II, and Angle's malocclusion Class.

Keywords: Third molar, impaction pattern, sagittal malocclusion.

52. Elton, R. (2024). Predictors of post-discharge mortality among children aged 5-14 years admitted to paediatrics wards at MNH, JKCI, and MOI. Muhimbili University of Health and Allied Sciences.

ABSTRACT

Background: It is estimated that over 1 million children aged 5-14 years died in the year 2017, with 55% of the deaths occurring in Sub-Saharan Africa. Mortality of children following hospital discharge is reported to be high ranging between 1-18% and may exceed in-hospital mortality in lower-income countries. In Tanzania, there is a paucity of data on post-discharge mortality rate and its predictors among children aged 5-14 years. **Objectives**: To determine the post-discharge mortality rate and its predictors among children aged 5-14 years admitted to paediatrics wards at MNH, JKCI, and MOI. **Methodology**: A prospective observational cohort study was conducted among children aged 5-14 years admitted to paediatrics wards at MNH, JKCI, and MOI. Data was collected using a structured questionnaire, and collected information included socio-

demographic characteristics, clinical profiles, and patients' outcomes. Post-discharge follow-up was carried out using phone calls at 1, 2, and 3 months following discharge. Data was analyzed using SPSS version 25. The association of demographic, social economic, and clinical factors with the outcome of all causes, 3 months post-discharge mortality was determined by Cox regression, and survival rates were displayed through Kaplan-Meier curves. **Results**: A total of 786 children were enrolled in the study. The mean age of the children was 7.6 years (SD=2.8). There was a slight male preponderance of 59.4%. Of the 744 children discharged, the post-hospital mortality was 2.9%. Children with HIV disease (Hazard Ratio (HR) 9.83, 95 CI 2.3-41.5) and chronic kidney disease (Hazard Ratio (HR) 18.26, 95 CI 1.3-39.26) were found to have a high post-discharge mortality. The predictors of post-discharge mortality were noted to be the duration of symptoms >2 weeks (Hazard Ratio (HR) 4.7, 95 CI 1.5-14.73), leukocytosis (Hazard Ratio (HR) 7.49, 95 CI 1.97-32.03), and discharge against medical advice (Hazard Ratio (HR) 55.4, 95 CI 4.46-393.11). More than half of the deaths occurred within the first month post-discharge, with more than 50% of them occurring outside the hospital. **Conclusion and Recommendations**: The findings emphasize on the need for improved follow-up care for children aged 5-14 years, particularly those with chronic conditions or discharged against medical advice. Most deaths occurred within the first month, often at home, highlighting the importance of early post-discharge interventions for high-risk patients.

53. **Emanuel, F. (2024). Prevalence and factors associated with alcohol use disorder among people living with HIV attending care and treatment centers at Moshi municipal, Kilimanjaro. Muhimbili University of Health and Allied Sciences.**

ABSTRACT

Background: Alcohol use disorder (AUD) is very common among people living with HIV (PLHIV), with 2-6 times the general population's prevalence, despite being connected to higher rates of morbidity and mortality among PLHIV. Furthermore, AUD increases sexual risk behaviors, which can, in turn, lead to further transmission of HIV.

Despite these negative consequences, a paucity of studies has explored this problem in Tanzania. Hence, this study aimed to determine AUD's prevalence and associated factors among PLHIV attending Care and Treatment Centers (CTCs) in Moshi Municipal, Kilimanjaro. **Methods:** A multifacility-based cross-sectional study was carried out among 532 PLHIV attending four CTC centers in Moshi Municipal, Kilimanjaro. A multistage cluster systematic sampling method was utilized to choose CTC centers and participants. The data were collected using standardized tools through interviewer administration. The statistical analyses were conducted using STATA (version 16). A binary logistic regression model was used to examine the associations between AUD and the independent variables. Odds ratios and their 95% confidence intervals were utilized to quantify the strength of these associations. **Results:** The mean age of the study participants was 46.6 years (SD□13.3). The weighted prevalence of alcohol use disorder (AUDIT □ 8) in the past 12 months was 28.2%. Factors that were associated with AUD in this study in the final analysis model included male sex (AOR=4.18, P <0.001), healthcare level (Reference tertiary health facility: secondary health facility AOR=1.80, P<0.001), primary health facility (AOR=9.65, P<0.001), being divorced or widowed (AOR=2.82, P<0.001), having at least a secondary level of education (AOR=1.35, P=0.005), and having probable depression (AOR=2.48, P <0.001) **Conclusion:** This study revealed a high prevalence of AUD among PLHIV, highlighting the need for enhancement of the integration of psychosocial services at CTCs.

54. **Emmanuel, T. (2024). Barriers and perception on kidney transplantation as a modality of renal replacement therapy among end stage kidney failure patients and their relatives in Dar es Salaam Tanzania. Muhimbili University of Health and Allied Sciences.**

ABSTRACT

Background: End-stage kidney failure (ESKF) poses a significant health burden worldwide, with kidney transplantation recognized as the optimal modality of renal replacement therapy (RRT). Despite its potential to enhance patient survival and quality

of life compared to hemodialysis, kidney transplantation remains underutilized in many developing countries, including Tanzania. Exploring barriers and perceptions among end-stage kidney failure patients and their relatives regarding kidney transplantation is essential for improving health outcomes. **Materials and Methods:** The study employed a descriptive exploratory qualitative design to explore barriers and perceptions to kidney transplantation as a modality of renal replacement therapy among patients undergoing hemodialysis therapy and their relatives in Dar es Salaam, Tanzania. A purposive sampling technique was used to recruit study participants. Thirty-six (36) were involved in the study using a semi-structured interview guide. Interviews were digitally audio-recorded, transcribed verbatim, coded, and thematically analyzed. **Results:** In the study, three themes emerged: Perception on kidney transplant, perceived barriers, and strategies to overcome the barriers to kidney transplantation (KT) guided by the socio-ecological model (SEM). The study revealed individual, interpersonal, institutional, and policy-related factors that hinder kidney transplants. Discrepancies in perceptions between public and government hospitals also emerged as a notable barrier. Additionally, participants suggested different strategies to overcome the barriers identified. The need for awareness and information about kidney transplants emerged, followed by the need for government support on funds and insurance for kidney transplantation. **Conclusion:** Awareness of kidney transplantation among ESKF patients and their relatives in Dar es Salaam is often limited and influenced by misconceptions, lack of knowledge, and concerns about the procedure. Kidney transplant offers significant benefits like improved quality of life, longer survival rates, and reduced long-term healthcare costs for ESKD patients in Tanzania. Key barriers include financial constraints, poor healthcare access, cultural beliefs, and lack of information. Overcoming these challenges requires strategies and efforts that can increase acceptance and uptake of kidney transplantation improving outcomes for ESKF patients in Tanzania.

55. **Ernest, E. (2024). Depression, anxiety, and associated factors among caregivers of children and adolescents with epilepsy attending Muhimbili Paediatric neurology clinic. Muhimbili University of health and allied sciences.**

ABSTRACT

Background: Epilepsy continues to be one of the most prevalent neurological disorders, it affects 50 million people globally. The diagnosis of epilepsy has psychological impacts on the families, particularly the caregivers. The stigma associated with the disease, the economic burden of care, and the unpredictability of seizures contribute to psychological distress in caregivers. Little is known about the prevalence of depression, anxiety, and associated factors among caregivers of children with epilepsy in Tanzania. **Objective:** We aimed to determine the prevalence of depression, anxiety, and their associated factors among caregivers of children and adolescents with epilepsy attending the Paediatric neurology clinic at Muhimbili National Hospital (MNH). **Methodology:** This was a hospital-based cross-sectional study conducted among caregivers of children and adolescents with epilepsy attending MNH Paediatric neurology clinic between July 2023 to November 2023. Demographic data were collected using a structured questionnaire, and depression as well as anxiety were assessed using Patient Health Questionnaire-9 (PHQ-9) and Generalized Anxiety Disorder 7 (GAD-7) tools respectively. Logistic regression was used to assess factors independently associated with depression and anxiety. A p-value less than 0.05 was considered statistically significant. **Results:** A total of 427 participants were enrolled with a mean age of 34.2 ± 6.8 years. Most caregivers were female 397 (93.0%), married 333 (78.0%), and mothers of children 381 (89.2%). Depression was observed in 17.3% of the participants, anxiety was found in another 17.3%, and 9.0% of caregivers were found to have both depression and anxiety. Factors associated with depression were having a child who is: less than 5 years old (adjusted odds ratio (aOR) =8.65; 95% CI: 1.79- 41.82, p=0.007), epilepsy duration more than 5 years (aOR= 3.25; 95% CI: 1.08 – 9.77), history of epilepsy-related injuries (aOR =2.90; 95% CI:1.26 – 6.66, p=0.012) and three or more hospital admissions (aOR=2.70; 95% CI: 1.02 - 7.11, p= 0.044). Caregivers whose children had not started school or were in primary school had lesser odds of depression compared to counterparts in secondary school (aOR=0.01; 95% CI: 0.001 – 0.28, p=0.0004) and (aOR=0.02; 95% CI: 0.002 - 0.36, p= 0.007), respectively. Factors associatedwith caregivers' anxiety were having a

child with: another comorbidity (aOR=2.01; 95% CI: 1.13 - 3.58, p=0.017), history of epilepsy-related injuries (aOR=2.52; 95% CI: 1.10 – 5.78, p=0.028), 3 or more hospital admissions (aOR= 3.22; 95% CI: 1.27 – 8.12, p= 0.013) and if caregiver was aged between 41 to 50 years (aOR = 3.30; 95% CI: 1.06 – 10.23, p= 0.039). Having a child with a duration of epilepsy of more than 5 years was associated with having concurrent depression and anxiety (aOR = 4.63; 95% CI 1.00 – 26.26, p= 0.049). **Conclusion:** Our study revealed that depression and anxiety are common among caregivers of children with epilepsy (CWE). Most of the factors associated with caregivers' depression and anxiety were epilepsy-related. Recommendations: Integration of mental health services in regular Paediatric neurology clinic offering screening for depression and anxiety and linkage of caregivers for counselling and psychoeducation

56. Ezekiel, E.J. (2024). Skin cancers among adult patients attending the Ocean Road Cancer Institute in Dar es Salaam – prevalence, pattern, clinical presentation and factors associated with treatment outcomes. Muhimbili University of Health and Allied Sciences.

ABSTRACT

Background: Skin malignancies are a cause of significant morbidity and mortality globally, although they are generally under-reported in most parts of Africa. In Tanzania, a study conducted in 2018 reported the commonest cancers to be Malignant Melanoma (65%), Kaposi's sarcoma (10.4%), Squamous cell carcinoma (8.4%), and basal cell carcinoma (7.8%). Other non-melanoma skin cancers are not well documented. With the ongoing efforts to prevent and improve care for patients with skin cancers in the country, not much is known about the current pattern, clinical presentation, outcomes of treatment, and the factors associated with such outcomes. **Objectives:** To describe the prevalence, pattern, clinical presentation, treatment modalities offered, outcomes of treatment offered, and factors associated with outcomes of treatment among patients presenting with skin malignancies at the ORCI. **Methodology:** This was a hospital-based retrospective cohort study that was carried out at the Ocean Road Cancer Institute (ORCI) in Dar es Salaam, Tanzania. Adult patients who were 18 years and above with a confirmed diagnosis of skin cancer attended from January 2019 to October 2023 were systematically selected from the hospital database and medical records to the desired sample size of 480. A structured Questionnaire was used for data entry. Descriptive statistics were used to summarize the data, while factors associated with the outcome of treatment were analyzed initially using a univariate analysis, and then a multivariate analysis for variables with p-values < 0.2. Kaplan-Meir curves were used to describe survival. A p-value less than 0.05 was regarded as statistically significant. **Results:** A total of 480 patients were enrolled. Kaposi's Sarcoma was the most prevalent cancer accounting for 57% of cases (95% CI: 53% - 62%). This was followed by Squamous Cell

Carcinoma at 22% (95% CI: 18% - 26%). Kaposi's Sarcoma predominantly manifested on the lower limbs (79.6%). Clinical presentation of the different skin cancer types varied according to the type of cancer. Kaposi's Sarcoma 3 presented with irregular multiple nodular lesions in (36%) of patients, lesions were commonly hyperpigmented (47.3%), and most had an irregular modulated surface (21.5%). Malignant Melanoma was characterized mostly by irregular and roundish lesions (39 % and 31.7% respectively), and most lesions were hyperpigmented (48.8%). The median duration between first symptom onset and definitive treatment initiation was 6 months. Prevalence of HIV among the patients was high (22.9%). The overall mortality was 11.3%, being higher (14.5%) among HIV-positive patients. The overall one–year survival rate of patients with skin cancer at the ORCI was 90.7%. Patients with no education had significantly lower odds of being cured compared to those with other education levels (Odds Ratio of 0.1 [(95% CI = 0.01 - 0.88,0 p = 0.038]). **Conclusion:** During the study period, the most common skin cancer was Kaposi's Sarcoma. There was high mortality among those who were HIV-positive. Most patients received treatment rather late but had good survival and patients treated by radiotherapy had better outcomes. There is a need for Emphasis on formal education for better treatment outcomes.

57. Felix, P. (2024). Factors associated with recurrence of anterior urethral stricture following direct vision internal urethrotomy. Muhimbili University of health and allied sciences.

ABSTRACT

Background: Anterior urethral stricture is a common urological condition that often requires surgical intervention, such as direct vision internal urethrotomy (DVIU), for treatment. Despite the initial success of DVIU, recurrence remains a significant concern. Identifying factors associated with recurrence of anterior urethral stricture can aid in patient management and improve outcomes. **Objective**: This study aims at determining factors associated with recurrence of anterior urethral stricture following DVIU among patients attending at Muhimbili National Hospital. **Methodology:** Between March 2018

and February 2023, a retrospective evaluation was conducted on 177 patients who underwent DVIU for urethral stricture. Data, including risk factors and preoperative workups were collected. Patients were divided into recurrence and non-recurrence groups based on postoperative outcomes, bivariate and multivariate analysis was done to compare association between sociodemographic factors, clinical factors and recurrence of anterior urethral stricture following DVIU.**Results:** In this study, 42 patients (24%) experienced stricture recurrence after DVIU, while 135 patients (76%) did not. Only patient age and stricture length had statistically significant association with recurrence of anterior urethral stricture following DVIU within five years of follow up. Patients with age of 60 years and above had higher chances of stricture recurrence following DVIU than younger ones. (p- value 0.04). The average age of patients with recurrence was 66±15 years, compared to 64±16 years. Recurrence occurred on average 2.6 months after DVIU, ranging from 1 to 49 months. The results indicated that stricture length above 1 centimeter (p-value < 0.001) exhibited statistically significant associations with recurrence of stricture. After adjusting for confounders, it was found that patient's stricture length and age has an independent vi association with recurrence. As patients with strictures equal to 1 cm were five times [aOR=5.19 (2.36 - 11.41)] more likely to have recurrence compared to those with structure less than 1 cm, with the difference being statistically significant (p-value < 0.001) There was with no statistically significant difference between neutrophil count and neutrophil to lymphocyte ratio among patient recurrence and those without recurrence of anterior urethral stricture. **Conclusion:** The findings from this study demonstrated that older patients of age 60 years and above have higher chances of stricture recurrence than younger ones (p value 0.04) also patients with strictures equal to 1 cm are five times [aOR=5.19 (2.36 - 11.41)] more likely to have recurrence compared to those with stricture less than 1 cm, with the difference being statistically significant (p-value < 0.001).

Keywords: Urethral stricture, Direct vision internal urethrotomy. Stricture recurrence, predictors of stricture recurrence.

58. **Francis, I. (2024). Prevalence and risk factors for primary speech and language delay among children attending speech and language therapy clinic at Muhimbili National Hospital. Muhimbili University of Health and Allied Sciences.**

ABSTRACT

Background: Children's speech-language development is crucial for the acquisition of social and academic skills. The speech-language delay is diagnosed when the child follows a correct sequence of speech and language development but at a slow rate, therefore, failing to reach the expected milestone of his/her age. The delay can be primary or secondary to other health conditions. In primary delay, there is no identified cause, however, several risk factors are attributable to its development. Male sex, extended use of electronic gadgets like Television (TV) and smartphones, and a family history of speech and language delays have all been recognized as common risk factors. Understanding these factors may help the development of preventive strategies and early intervention of the condition to prevent associated consequences like social and academic difficulties. **Objective:** The purpose of this study was to identify the prevalence and risk factors for primary speech and language delay in children attending the Muhimbili National Hospital Speech and Language Therapy (SLT) clinic. Methodology: A cross-sectional study was conducted from October 2023 to January 2024 among children aged 2 to 5 years attending a speech-language therapy clinic at Muhimbili National Hospital. For those who were recruited, their diagnoses were documented whether they had primary Speech and Language Delay (SLD) or not, and their corresponding parents/guardians were interviewed by using a structured questionnaire about the risk factors for primary SLD. Using Statistical Package for Social Sciences (SPSS) software version 23, data was analyzed, and the Chi-Square test was utilized to evaluate the relationship between variables. A p-value of less than 0.05 was regarded as statistically significant. **Results:** A total of 77 participants were recruited, of which males were predominantly 44(57.4%), and the age group of 3 years had the highest proportion 31(40.3 %). The prevalence of Primary speech and language delay (SLD) was 19(24.7%) with male preponderance, and the highest prevalence was found in those aged 3 years

9(29.0%). Among the risk factors assessed; a positive family history of Primary SLD (p=0.01) and being raised by single mothers (p=0.02) were found to be significantly associated with Primary SLD, while several vi risk factors which were found to be more prevalent in children with primary SLD, statistically were found to be insignificant. **Conclusion:** The Prevalence of Primary Speech and Language Delay (SLD) was found to be 24.7%. The risk factors found to be significantly linked to primary SLD were being raised by a single mother and having a positive family history of primary speech and language delay, while other risk factors demonstrated in other studies were found to be statistically insignificant. **Recommendation:** Education about Primary Speech and Language Delay (SLD) and its risk factors to health care professionals and the public is an important preventive strategy. In addition, future studies with large sample sizes are important to assess further the relationship between primary speech and language delay and its risk factors

59. **Frank, S. L. (2024). Early outcome and associated factors of split thickness skin grafting at Muhimbili National Hospital Dar es Salaam, Tanzania. Muhimbili University of health and allied sciences.**

ABSTRACT

Introduction: Split-thickness skin grafting is the most basic technique for transferring tissue which consists of epidermis plus a variable thickness of dermis from the donor site to the recipient site for the purpose of covering the wound to allow fast healing. Factors contributing to STSG outcome include age, sex, comorbidities, smoking, medications, wound size, wound site, first day of wound dressing post-surgery, hematoma, seroma and wound infection. There is paucity of information regarding outcome and factors contributing to STSG outcome in our settings. **Aim of this study:** Assessment of early outcome and associated factors of split thickness skin grafting at Muhimbili National Hospital**. Methodology:** Prospective cohort study design conducted at MNH involving patients admitted in burn and plastic surgery unit. Data were collected using Swahili version questionnaires and analysis were done using SPSS Version 23. Cumulative

incidence was calculated and risk ratio was used to measure association of the graft and variables. Multivariable logistic regression was used to control potential confounders. Any variable showed association with P value < 0.05 was considered as independent predictors. **Results:** The study involved 100 study participants. The median age of the participants was 25yrs with an interquartile range (IQR) of 34yrs. 58% of the participants were male. 12% of the study participants had comorbidities 5% were on chronic drugs use, 1% of the participants had infected graft and 1% had hematoma on lower limbs. Cumulative incidence of STSG failure was 12%. Factors associated with skin graft outcome were age, peripheral vascular disease and source of wound. Burn source of wound was found to be an independent predictor for skin graft failure. **Conclusion:** The Incidence of skin graft failure was 12% among patients who underwent STSG at Muhimbili National Hospital. Burn wound was an independent predictor for STSG failure.

60. **Gabriel, L (2024). Experience of adolescent mothers caring for newborns admitted in neonatal intensive care unit at the Regional Referral Hospitals in Dar es salaam, Tanzania. Muhimbili university of health and Allied Sciences.**

ABSTRACT

Background: Early motherhood remains a significant public health concern globally, particularly in low- and middle-income countries. Tanzania faces a high adolescent birth rate, with implications for neonatal health, as a significant proportion of newborns are admitted to NICU. However, there is limited understanding of the experiences of adolescent mothers caring for newborns in NICU in Tanzania. **Aim of the study:** To understand the experience of adolescent mothers caring for newborns admitted in NICU at the regional referral hospitals in Dar es Salaam, Tanzania to provide in-depth information that will contribute to improve healthcare practices and policy formulation in the country. **Methodology:** A qualitative phenomenological design was employed, involving in-depth interviews with adolescent mothers caring for their newborns in NICU at three regional referral hospitals in Dar es Salaam. Data was analyzed thematically with

support of NVivo 14 software. **Results:** Most of the adolescent mothers in the study had positive perception towards care received in NICU, but some experienced fear and emotional distress. They expressed a need for support, particularly in fulfilling maternal roles such as breastfeeding. Communication experiences varied, with most mothers understanding their newborn's diagnosis and treatment plan, but some faced challenges due to healthcare providers' attitudes or lack of attentiveness. Adolescent mothers were generally involved in decision-making about their newborn's treatment but inconsistently. All the mothers emphasized the importance of support from healthcare providers, families, and friends during this challenging time, particularly emotional support and also, some participants identified financial assistance as a significant need. **Conclusion:** Providing holistic support to adolescent mothers caring for newborns in NICU is essential for enhancing their well-being and promoting positive health outcomes. This includes improving communication skills among healthcare providers through fostering supportive environments that promote empathy and understanding and addressing financial burdens. **Recommendations:** To enhance the NICU experience of adolescent mothers, hospital management should focus on expanding infrastructure to reduce overcrowding, train healthcare providers in empathetic communication to support adolescent mothers, and ensure the availability and affordability of essential medical equipment. Additionally, offering financial aid programs to cover mothers facing financial constraints.

61. **Gamba, P. (2024). Mental Distress and Associated Factors Among Nurses at Muhimbili National Hospital in Dar Es Salaam. Muhimbili University of Health and Allied Sciences.**

ABSTRACT

Background: Mental distress is a combination of abnormal thoughts, emotions, and behavior that significantly affects the lifestyle of individuals in areas of self-efficacy, self-autonomy, competence, and ability to realize one’s own intellectual and emotional potential. It globally affects nearly a quarter of the population including nurses who are working at health facilities. **Objectives:** The current study aimed at assessing the

prevalence of mental distress and associated factors among nurses at Muhimbili National Hospital in Dar es Salaam, Tanzania. **Materials and Methods:** This was a hospital-based cross-sectional analytical study conducted among nurses at Muhimbili National Hospital. Data collection tools were a semi-structured questionnaire, Minnesota Satisfaction Questionnaire –Short Form 20 to measure job satisfaction and Cut down Annoyed Guilt and Eye opener to measure use of alcohol obtain independent variables and General Health Questionnaire 12 for mental distress. Data was analyzed using computer software (SPSS-28). Descriptive statistics was used to analyze socio-demographics while a bivariate and multivariate logistic regression analyses were conducted to establish the association between mental distress and selected factors. Principal component factor analyses were conducted to elicit psychometric properties of the GHQ 12 tool in the study population. All associated factors with a p-value of less or equal to 0.05 were used as statistical significance associations between mental distress and associated factors. Ethical approval, permission, and informed consent to conduct the study were obtained from the MUHAS (IRB), Executive Director of MNH and participants consecutively. **Results:** The study involved 342 participants, mainly aged 20-30 years 56.7% (n=194), mean age 31.73 (SD ±5.28) and median of 30 years. The majority were male 63.5% (n=217), married 59.4% (n=203), and enrolled nurses 51.8% (n=117) with 1-5 years of working experience 64.6% (n=221). The prevalence of mental distress among participants was 63.1% (n=342) while job satisfaction was 65.7% (n=342). The multivariate logistic regression analysis showed that the odds of mental distress was significantly higher amongst participants who reported job dissatisfaction [AOR = 1.58, 95% CI (1.43, 1.75), $p < 0.001$] and who were ranked as enrolled nurses [AOR = 1.31, 95% CI (1.15, 1.49), $p < 0.001$]**Conclusion:** The prevalence of mental distress among participants in this study sample is high and the risk associated with it is significantly increased amongst participants who reported job dissatisfaction and ranked as enrolled nurse which is the lowest cadre in nursing profession. **Recommendations:** There is a high need to improve mental health awareness and wellbeing amongst nurses including regular screening to identify severely affected individuals for interventions. Further

research is recommended to explore additional factors associated with level of job satisfaction among nurses so as to strategize best approach to improve.

62. **Gangji, A. (2024). Prevalence of Depression and Associated Factors Among Child Victims of Sexual Abuse at Mwananyamala One Stop Centre, Dar-Es-Salaam, Tanzania. Muhimbili University of Health and Allied Sciences.**

ABSTRACT

Introduction: Depression in childhood is a source of psychological suffering and compromises social, cognitive, and emotional aspects of child development. Child Sexual abuse (CSA) is a risk factor for the development of depression. Depression negatively impacts the lives of survivors of CSA, including substance abuse, obesity, suicide, high-risk sexual behavior, difficulties in interpersonal relationships, and poor educational outcomes, and is associated with suboptimal treatment response and poor prognosis. Some of the factors associated with depression among child victims of sexual abuse include living without biological parents, not attending school, family diffusion, and single parenting. **Objective of the study:** This study aims to assess the prevalence of depression and associated factors among child victims of sexual abuse at Mwananyamala OSC, Dar es Salaam. **Materials and methods:** This was a quantitative facility-based cross-sectional study. Convenience sampling was used to recruit children aged 7 to 17 years at least one-month post-sexual abuse who attended counselling sessions at the Mwananyamala OSC Dar es Salaam from October 2023 to December 2023. Structured social demographic questionnaires, the Multidimensional Scale for Perceived Social Support (MSPSS), the Children's Depression Inventory (CDI), and an adapted questionnaire to assess socioeconomic status were used for data collection. Data were analyzed using the statistical package for social sciences (SPSS 23.0). Logistic regression analyses were performed to test the association between dependent and independent variables. Ethical clearance was sought from the MUHAS Senate Research and Publications Committee, and participants and their parents/guardians were approached for consent before responding to the questionnaires. Ethical guidelines for the protection

of the rights of vulnerable populations were followed as per the protocol. **Results:** The study involved 165 participants, with a mean age of 11.5 + 2.7 years, and 63.6% were females. The prevalence of probable depression was found to be 53.3%. Children who had previously been exposed to sexual abuse were twice as likely to screen positive for probable depression (OR 1.975, 95% CI: 1.567 – 2. 142; p=0.028). Those who lived without biological parents (with other relatives, e.g., grandparents, uncles, or aunts) were thrice as likely to screen for probable depression (OR 3.126, 95% CI: 2.982 – 3.491; p=0.012) than those who lived with their parents. On the other hand, the children who attended school had 37% fewer odds of being screened positive for probable depression (OR 0.627, 95%CI: 0.520 – 0.823; p<0.001). **Conclusion:** Depression is common among child victims of sexual abuse. One in two child victims of sexual abuse has probable depression. Previous exposure to sexual abuse and living environment increases the odds of having probable depression, while school attendance is protective against probable depression. **Recommendations:** Regular screening and assessment of risk factors of depression for early identification and timely intervention in all child victims of sexual abuse attending OSCs and health facilities should be performed. Mental health services should be integrated into the broader child protection and welfare services framework. Parents and guardians should be made aware of the risk of depression in these children as well as guided on seeking appropriate help. Further studies should be conducted to evaluate the prevalence of depression and associated factors among child victims of sexual abuse.

63. **George, S. (2024). Factors associated with early fracture related infection among adult patients with malleolar fractures treated by open reduction and internal fixation at Muhimbili Orthopaedic Institute. Muhimbili University of Health and Allied Sciences.**

ABSTRACT

Background: Ankle fractures contribute 10% of all fractures and are the most frequent fractures encountered by orthopaedic surgeons. Ankle fractures represent 14% of all

fractures requiring hospitalization and 21% of all injuries due to sports. With the advancement of technology and availability of trained orthopaedic surgeons ORIF of malleolar fracture is done of which early fracture-related infection and its associated risk factors are not well documented in our region **Aim:** To determine factors associated with early fracture related infection among adult patients with malleolar fractures treated by open reduction and internal fixation (ORIF) at Muhimbili Orthopaedic Institute. **Materials and Methods:** This was a prospective observational study involving skeletally matured patients aged 18 years and above whose clinical and radiological examination confirmed the diagnosis of malleolar fractures and they were treated by ORIF. Data collection was done after obtaining informed consent of the participants with the use of a data extraction sheet and questionnaire. Following treatment, patients were followed up for review 2 weeks postoperatively. During the follow-up period patient were assessed in terms of early fracture related infection then correlated with risk factors. Data collection was done by the investigator then cleaned and analyzed by using SPSS version 24 **Result:** 10% of patients with malleolar fractures developed early fracture related infection following ORIF out of 100 patients. A univariate and multivariate analysis showed that male gender, alcohol intake, diabetes mellitus and open fracture were the independent predictors of early fracture related infection at Muhimbili Orthopaedic Institute. **Conclusion:** Factors associated with early fracture related infection among patient with malleolar fractures following ORIF at Muhimbili Orthopedic Insitute are male gender, alcohol intake, diabetes mellitus and open fracture. The result of the current study may in this regard serve as baseline reference for further studies with large sample size.

64. **Gideon T, (2024). Lived experience on adjuvant hormonal therapy among breast cancer patients at Ocean Road Cancer Institute in Dar es Salaam, Tanzania. Muhimbili University of health and allied sciences.**

ABSTRACT

Background: The impaction of a tooth is described as the failure of the tooth to appear in the mouth at the appropriate time and in the normal position. The surgical extraction of the impacted mandibular M3 molar is among the most performed surgeries by oral and maxillofacial surgeons. This routine procedure is linked to known post-operative complications described as trismus, pain and swelling of the face. To overcome the post operative complications of third molar surgery, several medical interventions have been tried including drugs like corticosteroids, strong analgesics, and Non-Steroidal Anti-Inflammatory Drugs (NSAID). Despite carrying out the 3rd molar surgical disimpaction procedure on daily basis in our setting, pre-operative injection of submucosal dexamethasone is very rarely practiced despite its benefits noted elsewhere in the world. Moreover, the paucity of information has hindered the development of standardized surgical protocols for managing sequela associated with impacted third molars in our settings. Aim of the study: To assess the effect of presurgical submucosal injection of dexamethasone on postoperative outcomes of surgical disimpaction of a mandibular third molar among patients treated at MUHAS Dental clinic, Oral and Maxillofacial clinic. Materials and methods: This is a randomized case control study conducted at MUHAS-dental clinic. The study population included all adult patient with impacted mandibular third molar treated at MUHAS- Dental clinic. Patient were randomly assigned into two groups (control or case), followed by clinical examination with radiologic studies. Later, face measurements recorded and local anesthesia and submucosal injection of dexamethasone 8 mg for case or tumescent solution infiltration for control was carried out by the principal investigator or his assistant on the mucosa of the site of the surgery. Later, the surgery was carried by a non-aware resident in maxillofacial surgery. On day 3 and day 7, patients were assessed for pain, swelling, trismus and comparative measurements were recorded. A level of difficulty was evaluated using a Modified difficulty Index by Shubi singh&kuete for MM3. All the data were encoded and entered into the Microsoft Excel 2022 spreadsheet and analyzed using the SPSS Statistical Package for the Social Sciences version 30. The level of vi significance was set at $P < 0.05$. The significance of the differences in measurement between the preoperative and postoperative dexamethasone groups and control was assessed using paired t-test and

Wilcoxon signed rank test. Results: Preoperative administration of dexamethasone was found to reduce the sequalae related to surgical disimpaction of mandibular third molar. The pain was reduced through the VAS score pain from day3 with statistical significance (p=0.025

65. **Gilbert, D.G. (2024). The expression of programmed cell death ligand 1 in esophageal carcinoma Patients at Muhimbili National Hospital. Muhimbili university of health and Allied Sciences.**

ABSTRACT

Background: Esophageal carcinoma (EC) is a highly aggressive cancer with poor prognosis, which had 511,000 new cases reported globally in 2022. In Tanzania the estimated annual incidence and mortality rates of EC was 7.9% and 11.3% respectively for both sexes, ranking it 2nd among top 3 leading causes of cancer related deaths in the country with a □20% 5-year survival rate. Treatment of EC using Immune checkpoint inhibitors (ICIs') has demonstrated excellent outcomes in the resolution of tumors when used as monotherapy or in conjunction with radiotherapy and/or chemotherapy medications. The expression of Programmed cell death ligand-1 (PD-L1) on tumor cells is now used as a biomarker to identify patients who might benefit from immunotherapy. Thus, based on EC, investigating PD-L1 immunohistochemistry (IHC) expression in our settings can help identify and evaluate therapeutic candidates and their outcomes as there are no data reported as yet on this area. **Broad objective:** This study aimed to determine the proportion of PD-L1 IHC expression and its association with clinicopathological factors among patients with EC at Muhimbili National Hospital (MNH). **Materials & Methods:** This study was a descriptive cross-sectional evaluation of 136 EC cases from January 2019 to January 2023 at MNH in Dar es Salaam, Tanzania. Data regarding age, sex, histological subtypes, tumor location and grade were retrieved from the pathology laboratory archives. Statistical analysis was performed using Statistical Package for Social Sciences (SPSS) 27.0. The association between PD-L1 IHC expression and clinicopathological factors was assessed using Fisher's exact test. P≤ 0.05 was considered

statistically significant. **Results:** The mean age of the patients was 58 ±14 years and males accounted for majority 66.9% (91/136) of the study population. Most 56.6% (77/136) of the tumors involved middle third of the esophagus and the predominant (89.0%) histological subtype was Esophageal squamous cell carcinoma (ESCC) (121/136), with majority (55.1%) of the tumors being grade 2 (75/136). PD-L1 IHC expression was observed in 5.1% (7/136) of the cases. No significant association was observed between PD-L1 IHC expression and any clinicopathological factors. **Conclusion:** This study has shown a low proportion of PD-L1 IHC expression including its lack of association with clinicopathological factors. The variation observed in comparison to other studies may be partly explained by several factors, including differences in the assays and antibodies used across studies, as well as sample variability. It is noteworthy however, that in our current study, all PD-L1 positive cases were ESCC and not adenocarcinoma or other subtypes. Thus, these results help inform patients' selection for PD-L1 IHC staining and subsequently targeted therapy.

66. **Gisiri, M. (2024). Bladder protocol compliance and its effect on radiation enteritis among cervical cancer patients at ocean road cancer institute. Muhimbili University of Health and Allied Sciences**.

ABSTRACT

Background: Cervical cancer is the 4th most common cancer in women worldwide and a leading cause of cancer morbidity in Tanzania. Radiotherapy is the primary treatment for locally advanced Cancer of the cervix. One of the most important complications of pelvic irradiation is radiation enteritis manifesting as an early effect and late effect. Advancement in radiotherapy has brought about tremendous improvement in target volume conformity using techniques such as Intensity Modulated Radiotherapy and the use of PROTON therapy. Due to limited access to these innovations many centers, including Ocean Road Cancer Institute, are not able to employ these newer techniques. As a result, there lies a challenge in minimizing exposure to the organs at risk. While the use of bladder protocol enhances reproducibility in EBRT during cervical cancer

treatment, it also plays a vital role in pushing the bowel bag out of the radiation field. In Ocean Road Cancer Institute, Bladder protocol is a component of the daily treatment procedure for cervical cancer radiotherapy. However, there is a paucity of data on how well patients can comply with bladder instructions from simulation to the 25th session of treatment. With a majority of patients reporting enteritis-related complaints during treatment, it is important to determine the bladder protocol compliance pattern and its relation with grades of enteritis across all weeks of External Beam Radiotherapy. **Objective**: To assess bladder protocol compliance and its effect on the development of radiation enteritis among cervical cancer patients treated with radiotherapy at Ocean Road Cancer Institute. **Materials and Methods**: This was a single hospital-based prospective cohort study, conducted entirely in Ocean Road Cancer Institute from October 2022 to April 2023. The study population consisted of histologically confirmed cervical cancer patients receiving Teletherapy during the stipulated period and meeting the eligibility criteria. A total of 79 patients were recruited and followed from baseline to their last week of external beam radiotherapy. Endpoint was the weekly highest grade of enteritis. Bladder volume estimation by urine volume was used to check for compliance whereas, Common Terminology Criteria for Adverse Events scale was used to grade enteritis. Statistical Package for Social Science was used for analysis. Quantitative data were summarized using mean, standard deviation, and percentages. Comparison between bladder volumes from baseline to the last week of treatment was obtained using Analysis of Variance (ANOVA) for repetitive variables. Correlation between weekly bladder protocol compliance and weekly grade of enteritis was obtained using Spearman's correlation method whereas the significance in the difference of proportion between different grades of enteritis weekly was obtained using CHI square test. P-value of <0.05 was considered statistically significant. **Results:** The mean urine volume at simulation was 296($\pm$ 190 SD) while at week 5 the mean urine volume was 231.2 ($\pm$162 SD) which represented a 21.9% drop from baseline with a P-value of 0.003. There was an increment in mean bladder volume by 4% and 1% in weeks 1 and 2 respectively with p-values of 0.201 and 0.745 respectively. In weeks 3 and 4, the mean urine volume dropped by 12.7% and 15.3% respectively, with p-values of 0.011 and 0.009 respectively. The

highest grade enteritis was grade I(5%), III(1%), III(4%), III(16%) and III(4%) in weeks 1,2,3,4 and 5 respectively with p-value of <0.001. correlation between mean weekly urine volume and grade enteritis yielded an inverse relationship with increasing strength of association towards week 5 and a p-value of 0.001 from weeks 2-5. **Conclusion:** Patients are less compliant with bladder protocol toward the last weeks of external beam radiotherapy. These could be due to dose-related toxicity such as radiation-induced cystitis or inadequate reinforcement of the bladder protocol practice. More severe forms of radiation-induced enteritis are relatively higher in the last three weeks of treatment. Poor bladder protocol compliance in weeks 3-5 is associated with increased grade 2 and 3 enteritis in the respective weeks of treatment.

67. **Gogogo, T.M. (2024). Assessment of the patient's satisfaction level with quality of health care services in regional referral hospitals in Dar es salaam, Tanzania. Muhimbili University of Health and Allied Sciences.**

ABSTRACT

Background: Dar es Salaam has higher number of regional referral hospitals than any other region in Tanzania. However, little is known about level of satisfaction of the quality of healthcare services provided in these facilities. Aim of the study: This study **aims** to assess patient's satisfaction level with the quality of healthcare services provided by regional referral hospitals in Dar es Salaam, Tanzania **Methodology:** A descriptive cross-sectional study design was used, interviewed 369 participants before and after they have accessed services at regional referral hospital in Dar es Salaam, in order to assess both the healthcare services they received and their expectations prior to getting the services. Satisfaction level was assessed by using four dimensions of SERVQUAL model which were reliability, responsiveness, assurance and tangibility. From the five point Likert scale for both post and pre questionnaire the data were coded and categorized, with dissatisfaction or poor responses coded as '0' and satisfaction or good responses as '1', then analyzed using SPSS version 20. Descriptive analysis, mean and frequencies were used to summarize the data. The mean score was utilized to ascertain variations in

each dimension as well as between the four dimensions. The difference in the four dimensions' mean scores, established by their expectation and performance were determined and the patient's satisfaction level. For the mean gap scores with a negative value shows dissatisfaction while zero and any positive value shows satisfaction. **Results:** Out of the four service quality dimensions employed in the study, the gap scores revealed negative gaps for two of them, indicating that patients were dissatisfied with the quality of the service in regard to those dimensions. Reliability and Tangibility were the dimensions with a negative mean gap score of -0.625 and -0.113 respectively. Conversely, the mean gap scores for the Assurance and Responsiveness dimensions were 0.623 and 1.64, respectively, indicating a positive correlation with the patients' perception of the service. The Assurance and responsiveness showed all its items showing satisfaction with a positive mean gap score. The reliability showed all its items showing vi dissatisfaction with a negative mean gap score. **Conclusion:** As for this study satisfaction was highest with responsiveness dimension and lowest with reliability dimension. So, the dissatisfaction with waiting time as promised to do so will motivate more changes of provision of healthcare services. Thus, proper management of the reliable for improvement of the healthcare services provided. **Recommendation:** The hospital management should encourage more calls for management action to improve service delivery in those areas with dissatisfaction as of the health care provided in these environments, also the administration should implement a system for regular monitoring to assess the performance and the provided feedback.

68. **Gwakisa, A. (2024). Prevalence of high - risk pregnancies and associated medical characteristics at Bagamoyo district hospital, Tanzania. Muhimbili University of Health and Allied Sciences.**

ABSTRACT

Background: high risk pregnancies (hrps) are defined as pregnancies that threaten the health of a mother or her child or both. among mothers attending hospitals throughout the pregnancy, 10-30% are classified as high-risk pregnancies of which 70-80% will lead to

mortality or perinatal morbidity. most of the primary healthcare facilities face challenges in identification and management of these pregnancies. it is therefore important to identify the prevalence and medical characteristics of high-risk pregnancies attending antenatal care clinic at the district hospitals. **Materials and methods:** this will be a cross-sectional observational study conducted in antenatal care clinic at bagamoyo district hospital for delivery services. the data was collected using a pre-tested questionnaire to collect medical characteristics of the participants. the pregnant women were categorized based on their risks and their association with medical characteristics were analysed using chi squared tests and logistic regression analysis. **Results:** a total of 278 participants were enrolled in this study. the mean age of the participants was 27.17 ± 5.71 years. majority of participants were from urban settings 234 (84.17%). the prevalence of high-risk pregnancy in this study was 17%. there is correlation observed between advanced age, history of spontaneous abortion and living in rural settings with high-risk pregnancy (or-10, p<0.001), (or-5, p-<0.001), (or-2.64, p=0.025) respectively. the most reported clinical diseases were anaemia (17.02%), pregnancy induced hypertension (25.53%) and gestational diabetes (2.13%). the study also found that women with history of spontaneous abortions had five times likelihood of having high-risk pregnancies. furthermore, participants who were more than 35 years had 8 times higher chances of having high risk pregnancy. **conclusion and recommendations:** there is high prevalence of high-risk pregnancy among pregnant women in bagamoyo district hospital. the facility should develop protocols for early identification and proper monitoring and specialized care for women identified as high-risk pregnancy.

69. **Haji, O.K. (2024). Non-communicable diseases reimbursement trends and predictors towards universal health insurance: a case of the National Health Insurance fund in Tanzania. Muhimbili university of health and Allied Sciences.**

ABSTRACT

Background: Non-communicable diseases (NCDs) account for 74% of global deaths annually, among which cardiovascular diseases account for 13.72%. In Tanzania, the

burden of NCD has been on the rise and it is estimated that hypertension has a prevalence of 26% and a prevalence of 9% and contributes to over one-third of all deaths (34%). Although the prevalence of NCDs is increasing the financial impact of these NCDs on the National Health Insurance Fund (NHIF) has not been fully explored. **Objective:** The main objective is to assess distributions, and trends of the major NCDs and to determine NCD reimbursement predictors using from January 2021 to December 2023. **Method:** A cross-sectional study design that used quantitative approaches to analyze secondary claims data from the NHIF database using the ICD-10. The data were analyzed using R Statistical software. Descriptive statistics were used to report and summarize the distributions, and reimbursement trends of the major NCDs, and multivariable log-linear regression analysis was deployed to determine the predictors for NCD reimbursement to NHIF. **Findings:** We found that females and the old age group (50-65, 65, and above) accounted for most NCD reimbursement, with NCD-related claims increasing from 1,293,668 claims in 2021 to 8,748,323 claims in 2023. Cardiovascular and diabetes-related claims were the highest followed by cancers and chronic renal disease. Most claims originated from private facilities 40% in 2023 followed by Government facilities 32% in 2023. The overall NCD reimbursement rose from TZS 220.1 billion (2022) to TZS 235.8 billion (2023), whereby cancers related claims having the highest average reimbursement per patient from TZS 1,110,464 to TZS 1,166,545 making the most expensive NCD to manage. We identified that NCD types, age group, sex, facility level, and type of facility ownership were predictors of NCD reimbursement. **Conclusion and Recommendation:** This study highlights that elderly individuals and females make up a significant portion of NHIF beneficiaries with NCD claims. NCD reimbursements by the NHIF have risen with cardiovascular diseases dominating the claims, while cancers and chronic renal diseases are the most costly to manage. NCD reimbursements correlate with identified predictors. Notably, private and zonal hospitals are associated with higher reimbursements. The NHIF should enforce effective referral systems and prioritize prevention and NCD treatment at primary and public facilities, which can deliver quality care at lower costs.

70. **Halima, B.G. (2024). Knowledge, attitudes and practices associated with compliance to maternal nutrition supplementation intake among antenatal women at Muhimbili National Hospital. Muhimbili university of health and Allied Sciences.**

ABSTRACTBackground: Maternal nutrition supplementation is crucial in the prevention and management of pregnancy complications and ensuring fetal health. Proper intake of essential nutrients such as iron, folate, calcium, and vitamins can prevent common pregnancy complications including Iron Deficiency Anemia (IDA), preeclampsia, and nausea. In Sub-Saharan Africa (SSA), deficiencies in these key nutrients have been linked to adverse pregnancy outcomes, such as fetal growth restriction, neural tube defects, low birth weight, and increased risks of prenatal and infant mortality and morbidity. Despite efforts to promote the use of supplements and improve maternal nutrition through antenatal care programs, compliance rates remain low in many regions, including Tanzania. **Objective:** To assess knowledge, attitudes, and practices associated with compliance to maternal nutrition supplementation intake among antenatal women at Muhimbili National Hospital. **Methodology:** This was a facility-based cross-sectional study conducted at Muhimbili National Hospital, involving 200 pregnant women attending antenatal clinic. Simple random sampling was used in the selection of study participants. Data was collected through a questionnaire with structured close-ended questions adopted from the Institute of Nutrition and Food Safety of China Center for Disease Control and Prevention to assess the knowledge, attitude and practice (KAP) of respondents will be used. Compliance with nutrition supplementation (Iron-Folic acid) in this study was defined as daily intake of IFA supplements from the beginning of the first trimester until the day assessment. SPPS vs.25 was used for data analysis. **Results:** The study found that 70% of participants had inadequate knowledge about IFA supplementation, with significant gaps in understanding its benefits, usage frequency, and duration. Attitudes were predominantly negative, with 55.3% of participants holding negative views towards IFA intake. Despite high reported consumption of IFA tablets (98%), only 31% adhered to the recommended regimen. Compliance was significantly associated with knowledge level, employment status, and

marital status. **Conclusion:** The findings highlight substantial gaps in knowledge and negative attitudes affecting compliance with IFA supplementation. Targeted educational programs, enhanced counselling, and community-based interventions are recommended to address these challenges and improve adherence. Engaging relevant stakeholders, including healthcare providers and community leaders, is essential to promote better practices and support maternal health.

71. **Hamis, M.C. (2024). Implementation of the web-based planning, budgeting, and reporting system (planrep) in facilitating monitoring of the implementation of comprehensive council health plans (cchp): a case of Singida region. Muhimbili University of Health and Allied Sciences.**

ABSTRACT

Background: The Web-Based PlanRep system provides limitless opportunities for innovation and digitalization of management functions to facilitate local government officials' participation in planning and budgeting. PlanRep improves accountability, transparency, and efficiency in government operations and service delivery, particularly in the areas of planning, reporting, and budgeting. The government of Tanzania deployed a Web-Based PlanRep in 2017 replacing the desktop application system (PlanRep) that was used previously to produce plans and budgets at Local Government Authorities (LGAs). The system aimed to improve planning, budgeting, and reporting efficiency at local government levels by addressing coordination issues and reducing costs. Monitoring ensures that health plans are executed efficiently, resources are allocated properly, and progress is tracked to meet health service delivery goals. While it enhances accountability, transparency, and efficiency, challenges like inconsistent reporting and delayed submissions persist. This study explores system adoption, user experiences, perception, and system integration to provide insights for improving the system and ensuring better health outcomes. **Objective:** To assess the implementation of the Web-Based PlanRep system in facilitating monitoring of the implementation of CCHP in the Singida Region. **Methodology:** A case study design using qualitative data collection

methods including in depth interviews with 15 participants (Medical Doctors, Health secretaries, Information Technology officers, Health information system focal persons, and Accountants), who were selected purposively from the Singida region, Municipal council, and Manyoni district council. Data were collected from the participants through a semi-structured interview guide. Data analysis was conducted through an inductive thematic approach, whereby data was summarized and coded using the NVIVO application**. Results:** The study revealed that the Web-Based PlanRep system adopted in the Singida region for monitoring CCHP implementation is supported by availability of guidelines, trained staff, and the availability of quarterly and annual CCHP implementation progress reports. Users find the system beneficial, offering transparency and allowing multiple users vi at all levels, unlike the previous desktop application, saving time and resources. However, technical issues, data mismatches, system slowdowns, and the integration of incomplete health information, along with human errors from inexperienced staff, hinder full reliance on the system for accurate reporting. **Conclusion:** The study reveals that the Web-Based PlanRep system has been adopted in the Singida region with strong availability of guidelines, trained staffs, and availability of quarterly and annual CCHP implementation progress reports. Most users received both formal and informal training, enhancing its use for monitoring CCHP implementation. The system is user-friendly, supports many users simultaneously, and reduces costs and time. However, technical issues such as slow performance, and data discrepancies, together with human barriers like insufficient training for new staff limit its effectiveness. Additionally, inadequate integration with other systems results in inefficiencies and inaccuracies in reports. **Recommendations:** Strong communication and collaboration between the Singida Regional Secretariat and PO-RALG to ensure integration of all health and other related information systems like eLMIS, GOTHOMIS, and NEST to streamline data management and reduce manual reporting. Infrastructure upgrades are needed to improve system performance and ensure data integrity through regular backups. Continuous training for users and adherence to guidelines by Council Health Management Teams are crucial. Additionally, orientation for new employees on health information systems will ensure confident system usage.

72. Haroub, T. (2024). Prescribers' adherence to malaria diagnosis and treatment guideline and associated factors in Kinondoni Public health facilities Dar es salaam, Muhimbili university of health and Allied Sciences.

ABSTRACT

Background: Malaria remains a major global health issue, particularly in high-prevalence areas like Tanzania, contributing significantly to morbidity and mortality. Despite established guidelines advocating for diagnostic confirmation before prescribing antimalarial drugs, adherence to these protocols is often poor. **Objective:** To assess prescriber adherence to malaria diagnosis and treatment guideline and associated factors in Kinondoni public health facilities, Dar es Salaam. **Methods:** This process evaluation adopted a descriptive cross-sectional study design was conducted, employing a quantitative method. A total of 135 participants were involved. Data (Demographic characteristics, Prescriber adherence, Operational factors, and patient influence) were analyzed using SPSS Version 20. **Results**: Significant factors affecting adherence to malaria guidelines were identified. Clinical officers exhibited the highest strict adherence (77.3%) compared to assistant medical officers (13.6%) and medical doctors (9.1%) with a p-value of 0.03. Hospitals had partial adherence (86.7%) and no strict adherence (0.0%), also with a p-value of 0.03. Prescribers with 2 years or less experience showed 50.0% strict adherence, while those with 3-5 years had 35.0%, resulting in a p-value of 0.04. Operational factors, especially training availability, had a significant impact on adherence (p-value of 0.02). Patient demand for malaria treatment also played a role, with a p-value of 0.01. **Conclusion**: The findings of this study demonstrate significant adherence to malaria treatment guidelines is influenced by prescriber type, experience, facility type, and patient demand. Clinical officers showed the highest strict adherence, while variations of adherence among different levels of professionals across health facilities call for targeted interventions, and aligning community expectations with clinical practices is crucial for improving adherence. **Recommendation**: The health facility manager should introduce regular training programs and update guidelines for

prescribers. Additionally, engaging with community health workers to manage patient expectations will enhance adherence and improve health outcomes.

73. **Haroun, A. M. (2024). Pattern And Factors Associated with Congenital Talipes Equino Varus Deformity Among the Under Five Children at Mnazi Mmoja Hospital, Zanzibar. Muhimbili University of Health and Allied Sciences.**

ABSTRACT

Background: Congenital talipes equinovarus (CTEV) is a congenital foot deformity that is associated with long term disability, with an established prevalence of 1 to 2 per 1000 live births globally. The causes of clubfoot are uncertain but the deformity is classified into positional, idiopathic or secondary and ranges from mild to inflexible clubfoot. There is considerable evidence for a genetic foundation for clubfoot, but the component responsible for clubfoot deformity in Zanzibar remains unknown. Transvaginal ultrasound can diagnose clubfoot at 13 weeks of gestation. Treatment with Ponseti method has been successful especially for children who present early. **Objective:** To determine the pattern and the factors associated with CTEV deformity among children under five at Mnazi Mmoja Hospital in Zanzibar. **Method:** This study was a descriptive cross-sectional study designed to identify factors associated with CTEV deformity. All under five children with congenital anomalies born at or referred to MMH over the period of June to August 2024 were enrolled in the study. The patterns and occurrence of clubfoot were recorded with respect to gender, side of deformity, association with other congenital anomalies, maternal demographic characteristics and maternal obstetric history. The data were analyzed using Statistical Package for Social Science (SPSS) version 23. **Result:** The total number of children enrolled during the study period was 273. The number of children with clubfoot deformity recorded was 19 (7%). The male to female sex ratio for those presenting with clubfoot was 2.1. 14 (74%) of the children had bilateral clubfeet. Among the five children with a unilateral club foot, the right side was involved in Three (16%) of the children. Three (16%) of children had other associated congenital anomalies. Neural tube defects were the most common anomalies associated

with clubfeet. Household smoking, family history, maternal age and maternal infection found to be significantly associated with increased risk of clubfoot with p value less than 0.05. **Conclusion:** This study found that males were twice as likely to have clubfoot as females and many of them had bilateral clubfoot and there was significant different in the rate of right and left clubfoot Clubfoot is a common birth defect in the study area. This study provides further insight into possible etiology of clubfoot being influenced by a household smoking, family history, maternal age and maternal infection found to be significantly associated with increased risk of clubfoot Although this data was hospital-based, it gives an estimate of the occurrence and pattern of clubfoot deformity presenting at the national referral hospital. Such information is vital in helping to quantify the magnitude of the problem and allows for resource planning in the management of this condition. **Recommendation:** The study should be continued and expanded to other hospitals, and to traditional birth attendants, in order to establish the true occurrence of clubfoot in Zanzibar and wider Tanzania.

74. **Haule, G. M, (2024). Breast cancer molecular subtypes and its associated risk factors among patient with breast cancer attending at Muhimbili National Hospital. Muhimbili university of health and Allied Sciences.**

ABSTRACT

Background: Breast cancer is the malignant neoplastic changes that arise from epithelia cells of ducts and lobules of the breast. Breast cancer comprises number of breast tumor subtypes that differ in molecular and cellular origin with different treatment and prognosis. Molecular subtypes such as triple negative subtype, they have poor prognosis, and limited treatment options. This highlights the importance of identifying risk factors associated with specific molecular subtype. In developing countries, the incidence of breast cancer is expected to increase further due to westernization of life style that led to increased risk for breast cancer, however, there is limited number of studies that have been done in Africa addressing the association between molecular subtypes and risk factors for breast cancer with inconsistent findings. **Aim:** The study was aimed to

determine the association between risk factors for breast cancer and breast cancer molecular subtypes among female patients with breast cancer at Muhimbili national hospital from march 2023 to April 2024. **Methodology:** This was a hospital based. Prospective analytical cross-sectional study. Risk factors and other patient information were collected through interviewing the patient and histological information from medical records through a structured questionnaire. Odds ratio was calculated by Multinomial logistic regression to assess association as well to control for confounding variable, p value <0.05 was considered significant were computed by SPSS version 27. **Results:** The study enrolled 168 female patients with histological confirmed breast cancer, with the mean age at diagnosis of 49±11.2 years,78% (132) were diagnose at the age above 40 years, 54% (91) had ER receptor positive,43% (73) were positive for Progesterone receptor, her 2 enriched receptor positive by 43% (73), majority 87% (155) of the patients, Ki 67 was not done. Invasive ductal carcinoma was prevalent 64% (107). Luminal A was the most common subtypes and grade II were the leading histological finding 38.1% (61), while 64% (59) of the total patients enrolled in the study, the pathological grade was not documented, Breast Cancer stage III was highly observed by 43% (73) while stage II and I were the least encountered. Molecular subtype had revealed association with modifiable risk factors for breast cancer among patients with alcohol use (P 0.04, AOR 0.22,95%CI 0.52-0.94), history of contraceptive use (P 0.028, AOR 0.365, 95%CI 0.149-0.895) and normal body mass index (P 0.031, AOR 3.66,95%CI 1.13-11.3) were negatively associated Luminal B compared with luminal A, Age at menarche above 12 years have revealed significant negative association with Triple negative subtypes (P 0.013, AOR 0.167, 95%CI ,0.41-0.69) and Her 2 subtypes (P 0.014, OAR 0.147,95% CI 0.32-68), other modifiable and non-modifiable risk factors were not associated with breast cancer molecular subtypes. **Conclusion:** Alcohol intake and history of contraceptive use had shown to have protective effect on luminal B compared to luminal A, while Body mass index had positive association with luminal B, however other modifiable risk factors were not associated with breast cancer molecular subtypes. Age at menarche above 12 years has protective effect on Tripple negative and Her 2 molecular subtypes while other non- modifiable risk factors were not associated with breast cancer

molecular subtypes. **Recommendation:** Large sample size and multicenter study may help in addressing inconsistencies and risk factors with less prevalence. Addressing one molecular subtype will increases the accuracy of ascertaining the association with risk factors. Improvement in investigating patient with breast cancer especially KI 67 will help in subtyping luminal A and Luminal B breast cancers.

75. Haule, I. R. (2024). Factors affecting the uptake of modern family planning methods among adolescent girls and young women living with HIV/AIDS in Hai district council -Kilimanjaro region, Tanzania. Muhimbili University of Health and Allied Sciences.

ABSTRACT

Background: avoiding unintended pregnancies is critical for health of adolescent girls and young women living with HIV, it has an additional benefit of preventing potential vertical HIV transmission. Hai district council is one of the seven councils in Kilimanjaro region with very low up take of modern family planning among agywlhiv aged 15-24 years. This may raise the number of infected people since not using fp increase the risk of unwanted pregnancies and easy transmission of HIV virus from mother to child which may result to raising incidence of new infection. The reasons as to why there is a low uptake of modern fp among agywl HIV are still not well known. It is this gap in knowledge that this research intended to fill. Objective of the study: to explore factors affecting the uptake of modern fp methods among agywlhiv/aids in Hai district council-Kilimanjaro region, Tanzania. **Materials and methods:** facility based case study design using a qualitative approach was used. Both IDI and FGD guides were used in data collection. Purposeful approach was used to select heath facilities considering availability of srh services. Using idi data from 30 agywlhiv was collected, 7 were users of fp and 23 were none users; and FGD collected data from 39 hcps working in the health facilities where clubs are conducted. The thematic analysis approach was used to analyse qualitative data. **Results:** the study explored both facilitators and barriers to the uptake of modern fp among agywlhiv. The facilitators include self-commitment of ywl HIV,

awareness of fp among ywl HIV, getting support from parents/guardians, experience sharing in ariel and mother support clubs, availability of health commodities in srh clinics and integration of HIV/FP services in the facilities. on the other hand, the barriers include factors such as fear of fp drug interaction with arvs, misconceptions and myths, low level of awareness on the use of fp; restrictions from partners, sensitivity from parents on adolescent's sexuality, lack of teachers and tutor's support on the use of fp and religious belief; and other barriers were unfriendly infrastructure of ctc clinics, lack of fp specific guideline for PLHIV, hcp's negative attitudes against adolescent sexuality, existence of weak clubs and less priority on modern fp. conclusion: this study explored both enablers and barriers to the contraceptive use for AGYWLHIV. The enabler factors have shown that effort on the interventions might help to increase the number of FP use and mitigate the burden of new HIV transmission and unplanned pregnancy. Overall, addressing individual, inter-personal, and institutional barriers through targeted interventions and policy reforms is essential for improving fp uptake among AGYWLHIV.

76. Haule, J.B. (2024). Factors affecting exclusive breastfeeding among nursing mothers in Njombe Region, Tanzania, Muhimbili university of health and Allied Sciences.

ABSTRACT

Background: Exclusive breastfeeding (EBF) is important for infant development, but in Tanzania, the national prevalence is only 64%. In the Njombe region, it's slightly higher at 70%, yet the region also has a high stunting rate of 53.6%. Despite efforts to promote EBF in Njombe, it hasn't reached the recommended coverage of 90% set by the WHO standards. **Aim:** This study aimed to address this gap by examining the factors influencing exclusive breastfeeding practices among nursing mothers in the Njombe region. **Methodology:** A mixed-method study included 398 nursing mothers with infants aged 6-12 months from six randomly selected facilities, the study used both qualitative and quantitative approaches. Structured questionnaires gathered socio-demographic information and factors affecting exclusive breastfeeding, while qualitative data were collected from Focus Group Discussions (FGDs) and In-depth Interviews with nursing

mothers' spouses. Quantitative data analysis used SPSS version 26, computing summary statistics and applying the Chi-square test to measure associations. Qualitative data were analysed through thematic analysis, identifying themes, and using Atlas Ti to organize quotes. **Results:** In the study, most nursing mothers (56.5%) were aged 25-35, with a majority (59.8%) being married and 59.5% having completed primary education. Qualitative insights indicated that traditional medicine, misunderstanding a baby's cry, and cultural practices impacted exclusive breastfeeding (EBF). Most mothers used traditional remedies before six months, often due to perceived hunger or growth concerns. Beliefs about breast changes and cultural views on crying influenced the early introduction of solid foods. Quantitative analysis revealed a link between professional support and higher EBF rates. Mothers who received counseling had significantly higher EBF rates (81.6%) compared to those without support (72.9%). **Conclusion:** This study highlights the interaction of family dynamics, healthcare guidance, and cultural influences on exclusive breastfeeding practices in the Njombe Region. It highlights the need for comprehensive interventions to address cultural beliefs, enhance healthcare provider education, and promote family involvement. Addressing these factors can lead to sustained improvements in exclusive breastfeeding, benefiting both mothers and infants in the region.

77. **Henjewele, F.S. (2024). Knowledge, attitude, and perceived barriers to provide analgesia for labour pain and vaginal delivery among healthcare providers at Muhimbili National Hospital. Muhimbili University of Health and Allied Sciences.**

ABSTRACT

Background: Labour analgesia administration is an essential component of standard obstetric care. Using analgesia for labour pain relief is not common in Africa, especially Sub-Saharan Africa. At Muhimbili National Hospital the practice of giving analgesia to a labouring woman is not commonly done despite the fact that health care providers are aware that many women are in need of it and they request analgesia when in labour. **Objective:** To assess knowledge, attitude, and perceived barriers to provide analgesia for

labour pain and vaginal delivery among healthcare providers at Muhimbili National Hospital. **Methods:** A cross-sectional study was conducted in December 2023, written consent was processed and obtained from each healthcare provider before data collection and structured self-administered questionnaire was used, the collected data were coded and analyzed using SPSS version 23. Descriptive statistics were computed to determine frequencies and percentages finally data were presented using texts and tables. **Results*:*** A total of 202 health care providers participated with majority being midwifes and anesthetists. Less than a half 87(43.1%) of the healthcare providers had good knowledge and about a third 74(36.6%) of the participants had good attitude towards provision of analgesia for labour pain and vaginal delivery. Less than a quarter 29 (14.4%) of the participants reported to provide analgesia for labour pain and vaginal delivery inconsistently and among them, the most common method 24(82.8%) was systemic (intravenous or intramuscular) analgesia. Most of the healthcare providers 175(86.6%) responded that "absence of clear guideline and protocol" that guide provision of analgesia for labour pain as a major perceived barrier for healthcare provider to deliver the service followed by "lack of knowledge" to administer analgesia 118(58.4%) and unawareness among healthcare provider 108(53.5%) on available choices of labour pain analgesics. **Conclusion:** Less than half of participants have good knowledge and attitude to provide labour pain analgesia and majority of the healthcare provider do not routine provide analgesia for labour pain.

78. **Hussein, T.A. (2024). Nurses' knowledge, practice, and barriers in implementing pressure ulcer prevention care bundles in ICU of selected Referral Hospitals, Muhimbili university of health and Allied Sciences.**

ABSTRACT

Background: Most patients admitted to intensive care units (ICUs) still struggle with pressure ulcer prevention, especially in developing countries. Pressure ulcer prevention bundles are considered essential for lowering the incidence of pressure ulcers in patients referred to intensive care units. There is little information available in Tanzania regarding

the difficulties faced by nurses in implementing the pressure ulcer treatment bundle. **Aims:** Examining nurses' practices, knowledge, and barriers in applying pressure ulcer prevention care bundles in intensive care units at particular referral hospitals in Dar es Salaam, Tanzania, is the study's main goal. **Methodology:** Analytical, cross-sectional study design was employed. The study was conducted at (MNH, JKCI, and MOI). The data was gathered via a self-administered questionnaire. A simple random sampling with a stratified approach was employed to select 112 study participants. The data was evaluated using both descriptive and inferential statistics using SPSS software version 26. A bivariate analysis was carried out with $p<0.2$, which was deemed fit for a multivariate analysis which set the p-value <0.05 as statistically significant. **Results:** The study revealed that most of the participants (65.2%) had insufficient knowledge of the pressure ulcer prevention bundle. It was noted that working institutions, level of education, and training were associated with nurses' knowledge of pressure ulcer prevention bundles. (AOR = 10.082, 95% CI: 1.578–64.403, P = 0.015), (AOR = 33.334, 95% CI: 2.478–448.479, P = 0.008), and (AOR = 0.231, 95% CI: 0.077-0.695, p = 0.009) respectively. Moreover, only 42% of respondents had good practice in pressure ulcer prevention bundle implementation. It was found that only training was associated with nurses' practice on pressure ulcer prevention bundles. (AOR = 2.758, 95% CI: 1.18-6.437, P = 0.019. Most barriers reported were insufficient pressure ulcer prevention bundles and the absence of courses offering specialized training on preventing pressure ulcers in the workplace. **Conclusion:** The majority of the respondents had insufficient knowledge and practice in pressure ulcer prevention care bundles, and this was associated with the presence of barriers hindering nurses in the proper implementation of this tool for patients admitted to ICUs. Due to insufficient knowledge and practice in pressure ulcer prevention bundle continuous professional training for nurses working in ICUs is important. **Key terms.** The pressure ulcer prevention care bundle, Braden scale, Pressure Ulcer, critically ill Patients, National Referral Hospital.

79. Hyera, D.A. (2024). Proportion of psychological stress and associated factors among patients with open tibia fracture treated at Muhimbili Orthopedics Institute Muhimbili University of Health and Allied Sciences.

ABSTRACT

Background: Psychological stress is a significant and rapidly increasing public health problem in patients' long-term rehabilitation around the world. There are several reported cases of patients with open tibia fractures whose health outcomes were affected by stress disorder. This indicates that little is known regarding the proportion of psychological stress and associated factors in patients with open fractures of the tibia. **Objective**: The study intended to determine the proportion of psychological stress and associated factors among patients with open tibia fracture treated at Muhimbili Orthopedic Institute. **Methodology and methods:** A cross-sectional descriptive study was carried out at Muhimbili orthopedic Institute. A simple sampling technique was employed to obtain 386 patients after they have met inclusion and exclusion criteria. A structured questionnaire was utilized as a data collection tool and a short form with 36 questions (SF-36) was used containing questions that examined quality of life that was then interpreted in relation to psychological stress. IBM Statistical Package for Social Sciences (SPSS) version 23 software was used to describe socio-demographic characteristics and the proportion of psychological stress among patients with open tibia fractures. Multivariate logistic regression was used to obtain an adjusted odd ratio and 95% confidence interval to identify the strength of the association between dependent and independent variables. A variable with $p<0.05$ was considered statistically significant. **Result:** A total of 386 patients were enrolled to the study. The mean age was 35.04 ±12.61, 70.7% were in the age group of 18- 38years. The mean BMI was 26.9±4.2, and 62.6% were obese. The majority of the patients were males accounting for 80.8%. The proportion of psychological stress was found to be 66.5%. **Conclusion and recommendation:** A higher level of psychological stress among patients with open tibia fracture was associated with having a lower level of education self-employment, lower level of income, a period of fewer than three weeks following injury, complications of injury, and

poor social support. Then, the study recommends provision of public health education as a coping strategy and conducting routine

80. **Hyera, F. (2024). Prevalence and factors associated with labor and birth companionship among women delivering in Njombe region, Tanzania. Muhimbili University of Health and Allied sciences.**

ABSTRACT

Introduction: Childbirth is a pivotal event in a woman's life, and the presence of a companion during labor and birth has been recognized as a crucial element in improving maternal well-being and the overall birthing experience. **Objective**: To assess the prevalence and factors associated with the use of labor and birth companions among women delivering in the Njombe Region, Tanzania. **Methods:** An analytical cross-sectional study was conducted to assess the prevalence and factors associated with the use of labor and birth companions among women delivering in selected facilities in the Njombe Region. A multistage cluster sampling technique was applied. A simple random sampling technique was used to enroll 282 women to participate in the study. Collected data were analyzed by Stata software version 18.0 at a 5% significant level. Logistic regression was carried out to identify variables having a significant association with the use of labor and birth companions. **Results:** The prevalence of labour companionship was 57.4%, 95% Confidence interval (CI), 51.5%-63.1%) and that of birth companion was 0.7% (95% CI, 0.1%-2.8%). The overall knowledge about labor and birth companions' companions was 42.9% (95% CI, 37.2%-48.8%) while 200 (70.9%), 95% CI, 65.3%-75.9%) women had a positive attitude towards labour and birth companions. Multivariate analysis revealed a history of birth complications (Adjusted odds ratio, AOR: 1.45, p=0.023) and delivery at Njombe town council facilities (AOR: 1.95, p=0.023) were associated with higher odds of L&B companionship. Although not statistically significant, positive attitudes towards companionship (AOR: 1.28, p=0.160) also tended to be associated with increased companionship. **Conclusion**: This study concludes that labor companionship is generally well-regarded, with over half of women

demonstrating positive attitudes. However, the actual utilization of birth companionship remains low, suggesting a knowledge gap among women. **Recommendation:** Health authorities and stakeholders of health in the Njombe region should design and implement educational campaigns targeting both women and healthcare providers. **Keywords:** Labor companion, birth companion, women of delivering, knowledge, attitude

81. **Ilomo, D. (2024). Aspects impacting implementation of point of care HIV early infant diagnostics in Dar es salaam, Tanzania. Muhimbili University of Health and Allied Science.ABSTRACT. Background:** Globally, more than 1.7 million children acquire HIV either in utero or during childbirth. Nearly 61% of the people newly infected with HIV live in sub-Saharan Africa while Tanzania has 5% of the number of children (0-14 years of age) living with HIV. The underlying cause of death to children under the age of 18 months exposed to HIV infections is delay of diagnostic outcomes or delay in initiation of life-saving Antiretroviral therapy (ART). Implementation Point of Care HIV Early Infant Diagnosis (POC-HEID) may improve this situation as it has been recommended by WHO to facilitate the shortest Turnaround Time and early initiation of ART.**Objectives:** This study explored aspects that impact the implementation of POC-HEID for health facilities with Point of Care Technology (POCT) in Dar es Salaam, Tanzania **Materials and Methods:** This qualitative study, employed an exploratory study design using thematic analysis. The study area was in Dar es Salaam, six health facilities with Point of Care Technology (POCT). A study permit was obtained from MUHAS IRB with the number MUHAS-REC-06-2024-2321 and permits were provided by respective health facilities management. Participants in this study were healthcare workers and other stakeholders involved in the HEID cascade. Participants were obtained through purposive sampling based on the key informant's experience and involvement in POCT. A total of 12 key informant interviews were conducted using semi-structured interview guides adopted from CFIR. Interviews were audio-recorded in Kiswahili then transcribed verbatim and translated into English for the preliminary coding process. Data were analyzed deductively using predefined constructs from CFIR by using Dedoose software. **Findings:** Two themes emerged which are facilitators and barriers towards

implementation of POC-HEID whereby individual aspects such as knowledge over of POC-HEID while in inner settings shortage of resources supply for the POC-HEID implementation and Outer settings such as the absence of specific policy and guidelines that prioritize POC-HEID and shortage of medical resources were mentioned as major barriers towards POC-HEID implementation. **Conclusion and Recommendations:** Constraints of resources, shortage of training that impart knowledge, and lack of policy and guidelines that mandate implementation of POC-HEID are major barriers to implementation of POC-HEID. Comprehensive involvement of different stakeholders (NASHCoP, healthcare providers, implementing partners, and policymakers) is paramount important to facilitate the implementation of POC-HEID by dealing with barriers and enhancing facilitators, furthermore, studies are required to explore the effectiveness of implementation of POC-HEID.

82. **Ilomo, H.B. (2024) Nephrotoxic drug exposure and associated acute kidney injury among premature and low birth weight neonates admitted to intensive care units at Muhimbili National Hospital, Dar es Salaam. Muhimbili University of Health and Allied Sciences.**

ABSTRACT

Background: Neonatal acute kidney injury (AKI) is a serious condition that can lead to long-term complications and even death if left untreated. Premature and low birthweight neonates admitted to intensive care units (ICUs) are at a higher risk of developing AKI due to factors such as incomplete renal maturation, perinatal asphyxia, sepsis, prematurity, and nephrotoxicity as a result of exposure to potential nephrotoxic drugs, hence, timely diagnosis and management is crucial for their survival. **Objective:** The primary objective was to determine the prevalence of exposure to potential nephrotoxic drugs and AKI among premature and low birth weight neonates admitted to ICUs at Muhimbili National Hospital (MNH), Dar es Salaam. **Methods:** This was a hospital based cross-sectional study conducted at MNH Upanga and Mloganzila in Dar es Salaam from February 2024 to June 2024. A non-probability convenient sampling technique was

used to recruit premature and low birth weight neonates who met the eligibility criteria. A standardized structured questionnaire was used for data collection and blood samples were drawn for measuring serum creatinine (SCr) at admission, at the 48th hour after the baseline sample and on the 7th day/just before discharge. Data was analyzed using IBM statistical package for social science (SPSS) version 23.0. To determine the association of independent variables with AKI, chi-square test of association was used. Furthermore, a univariable and multivariable regression analysis was done using a robust Poisson logistic regression model, whereby variables with a p-value of < 0.20 in univariable analysis were considered in the multivariable model. The p-value of < 0.05 was considered statistically significant. **Results:** The study enrolled a total of 144 premature and low birthweight neonates, with females comprising the majority at 61.8% (89 participants). The median age (Inter-Quartile Range) at admission was 5 (3, 12) days. A significant proportion (65.28%) of the neonates were exposed to potentially nephrotoxic drugs, primarily ampicillin and cloxacillin (58.3%) as well as gentamicin (54.9%). The prevalence of AKI was 26.39% and place of birth was identified as an independent predictor of AKI with an adjusted prevalence ratio (aPR) of 2.12 (95% CI: 1.03 - 4.38, p=0.04). **Conclusions:** The findings underscore the high prevalence of AKI and the potential nephrotoxic drug exposure among premature and low-birth-weight neonates in ICUs. These results highlight the need for routine screening and monitoring protocols for early detection of AKI in neonates; particularly those exposed to potentially nephrotoxic drugs, and emphasize judicious use of these drugs in this vulnerable population.

Keywords: Potential nephrotoxic drugs, acute kidney injury, premature neonates, low birth weight, intensive care units.

83. Ilomo, L. (2024). Pattern of arrhythmias among patients with Heart failure admitted at JKCI. Muhimbili University of Health and Allied sciences.

ABSTRACT

Background: Arrhythmias significantly impact the mortality and morbidity of individuals with heart failure, placing a substantial burden on healthcare systems

worldwide. However, a detailed understanding of the specific arrhythmia patterns among patients admitted to the Jakaya Kikwete Cardiac Institute (JKCI) remains lacking. **Aim**: To determine the prevalence, types, and subtypes of arrhythmias in patients with heart failure admitted to JKCI **Methodology**: We conducted a four-month hospital-based descriptive cross-sectional study involving 241 participants who met inclusion criteria and provided consent. All participants were diagnosed with heart failure based on the Framingham criteria, and necessary investigations, including electrocardiograms (ECGs), were efficiently performed. We used SPSS as the standard statistical software to analyse our data. **Results**: Our study revealed a prevalence of arrhythmias among heart failure patients admitted to JKCI at 116(48.1%). Supraventricular arrhythmias were predominant, with atrial fibrillation (AF) accounting for 35(14.5%) of cases among all heart failure patients and 35(30.2%) among those with arrhythmias. Sinus tachycardia followed at 22(19.0%), and premature ventricular contractions (PVCs) at 14(12.1%). Heart blocks were also common, with first-degree heart block being the most prevalent at 13(11.2%). **Conclusion**: Nearly half of heart failure patients at JKCI exhibit arrhythmias. Supraventricular arrhythmias, particularly atrial fibrillation, represent the most common subtype among arrhythmic heart failure patients, impacting 30.2% of this population and 14.5% of all heart failure patients U rstanding the various arrhythmia types is crucial for improving management strategies.

84. Issack, I. K. (2024). Healthcare providers' positive and challenging experiences in implementing the non-medical elements of respectful maternity care at Nyamagana District Hospital in Tanzania. Muhimbili University of health and allied sciences.

ABSTRACT

Background: The World Health Organization emphasizes integrating and providing respectful maternity care (RMC) as a universal human right to improve maternal and neonatal health outcomes. However, despite this emphasis, exploring RMC through the healthcare workers' perspective, particularly regarding the non-medical elements, remains inadequately documented, especially in Low—and Middle-Income Countries

(LMICs) like Tanzania. The relationship between non-medical RMC and quality of care is crucial in shaping the birth experience and influencing birth outcomes, particularly in the Tanzanian context. Therefore, a deeper exploration of how this is implemented from a provider's perspective is needed to understand the implications on maternal health outcomes better. **Objective:** To explore the experiences of health care providers in implementing non-medical elements of respectful maternity care at Nyamagana District Hospital in the Mwanza region. **Methods:** This qualitative study employed the phenomenological design using in-depth interviews with 12 nurses selected through purposive sampling. The interviews were audio recorded, transcribed, translated, and thematically analysed using Braun and Clarke's method. The thematic analysis enabled the identification of key themes regarding dignity, confidentiality, and communication in the provision of RMC. **Results:** Three main themes emerged: dignity, confidentiality and communication, each with specific barriers and facilitators affecting RMC implementation. Study participants reported several challenges, including high patient load, inadequate facilities and insufficient training, which affected their ability to uphold dignity and maintain confidentiality. Shared spaces hindered privacy, with high workloads and limited communication skills training impeded effective communication with patients. Despite these barriers, the participants highlighted the significance of small acts of kindness and emphasized the positive impact of maintaining respect and empathy during maternity care. **Conclusion:** The study highlights the need for ongoing training on RMC for healthcare providers. However, training alone is not enough; it must be coupled with efforts to strengthen health systems such as improving infrastructure for patient privacy, ensuring essential resources, cultivating a supportive work environment, and providing cultural competence training to enhance the quality of RMC, ensuring that all women receive dignified, respectful and confidential care during childbirth.

85. Jaka, U. (2024) The accessibility of credit loans from financial institutions by private healthcare facilities in Tanzania. Muhimbili university of health and Allied Sciences.

ABSTRACT

Background: Private healthcare facilities were established to supplement government efforts in strengthening the delivery of quality health services and enhancing health outcomes. In developing countries, the growth of private healthcare facilities is hindered by limited access to finance, with little to no capital available. Despite the presence of financial institutions that could provide loans to private facilities, there is currently limited evidence on the factors that facilitate or impede access to these credit loans. **Objective of the study:** To assess the factors affecting the accessibility of credit loans from the financial institutions by the private health facilities in Tanzania. **Methods and Materials:** This study employed an exploratory qualitative design to address the research objectives. Key informant interviews were conducted among respondents from the financial institutions and the private health facilities. The study was conducted in Dar es Salaam region across the financial and private health facilities located in all the five districts. The interviews conducted were as well complimented with a document review. A thematic analysis method was used to analyze the qualitative data using NVIVAL software. **Results:** Private healthcare facilities have marginal access to credit loans from financial institutions, influenced by both supply-side and demand-side factors. The documentary review revealed that a small proportion of private healthcare facilities obtain credit loans, while capital equipment and the expansion of services/business are the most frequently sought loan purposes. Additional factors hindering access to loans were also identified. **Conclusion and recommendation:** The study findings indicate that the ability of private healthcare facilities to obtain credit loans depends on both supply and demand-side factors. There is lack of awareness and understanding of where the private health facilities should obtain loans as well as the conditions for borrowing. Therefore, awareness campaigns and entrepreneurship training programs focusing on financing support has to be conducted among the establish credit loans with terms and conditions that meet the requirements of private healthcare facilities, and encourage expertise in the health sector.

86. James, E.M. (2024). Occurrence of selected virulence genes in multidrug-resistant *Escherichia coli* isolates from humans, animals, and environment in Dar es Salaam, Tanzania. Muhimbili University of Health and Allied Sciences.

ABSTRACT

Background: *Escherichia coli* is listed by the World Health Organization as one of the critical pathogens due to its vast array of virulence and antimicrobial resistance genes. The genes are widely spread between humans, animals, and the environment through horizontal gene transfer. In humans, the bacterium is capable of causing a broad spectrum of intestinal and extra-intestinal diseases. **Aim of the study:** To determine the occurrence of virulence genes *bfp, ompA, traT*, *eaeA* and *stx1* in multidrug-resistant *E. coli* isolates from humans, animals, and the environment in Dar es Salaam Tanzania. **Methodology:** This cross-sectional study involved 50 MDR *E. coli* isolates; 15 from humans, 6 from the environment, and 29 isolates from animals, of them 16 were from domestic pigs and 13 from poultry. These isolates were cultured on MacConkey agar (Oxoid Ltd, Hampshire, UK) and Nutrient agar (Oxoid Ltd, Hampshire, UK) aerobically at 37°C for 24 hrs. Multiplex PCR (New England Biolabs, Ipswich, MA, USA) was used to detect virulence genes *ompA, traT*, *eaeA,* and *stx1,* while *bfp* was detected using a uniplex PCR (New England Biolabs, Ipswich, MA, USA). T. Descriptive analysis was used to determine the virulence gene(s) prevalence among MDR *E. Coli*. Differences in the occurrence of the five genes between sample sources were determined using Chi-square and $p < 0.05$ was considered to be significant. Principal component analysis (PCA) was used to determine the distribution and relationships of antimicrobial resistance and virulence genes of MDR *E. coli* isolates. **Results:** All 50/50 (100%) MDR *E. coli* isolates were found to carry at least one virulence gene, with 19/50 (38%) carrying four genes, *bfp* + *traT* + *eaeA* + *ompA*. The findings showed a high occurrence of virulence genes *bfp* (82%), *traT* (82%), *eaeA* (78%), and *ompA* (72%), whereas *stx1* was not detected in any of the isolates. For humans, the most detected virulence genes were *buff* and *traT* 14/15 (93.3%), for poultry, was *eaeA* 13/14 (92.9%), for pigs were *bfp* and *traT* 13/15 (86.7%) while for river water the most detected gene was *eaeA* 6/6 (100%). PCA results show the virulence genes

ompA, *traT*, *eaeA,* and *bfp* contributed to the virulence of the isolates. The PCA ellipses show that isolates from pigs had more virulence genes compared to those isolated from poultry, river water, and humans. No association was observed between virulence genes and antimicrobial-resistant genes. **Conclusion:** The high frequency of virulence genes in MDR *E. coli* isolates from humans, animals, and the environment indicates these isolates have a very high potential to cause diseases that are difficult to treat, emphasizing the need for integrated surveillance and control measures.

87. **Jaribu, S. (2024). Factors associated with HPV vaccination uptake among adolescent girls living with HIV attending care and treatment clinics in Dar es salaam, Tanzania. Muhimbili University of Health and Allied Sciences.**

ABSTRACT

Background: Cervical cancer remains a significant public health issue, especially in sub–Saharan Africa, which accounts for 87% of global cervical cancer cases. Adolescent girls living with HIV (AGLWH) are at a higher risk due to immunosuppression. Despite Tanzania offering free HPV vaccines, uptake among AGLWH remains below national targets. **Objective:** This study aimed to determine the factors associated with HPV vaccination uptake among AGLWH attending care and treatment clinics (CTC) in Dar es Salaam. **Materials and Methods:** A cross-sectional study was conducted with 200 caregivers of AGLWH. Data on vaccination status, sociodemographic characteristics, and awareness were collected through structured interviews. Statistical analyses, including chi-square tests and logistic regression, were used to identify factors associated with HPV vaccination uptake. **Results:** HPV vaccination uptake was 78.5%. Significant factors influencing uptake were education status (secondary education increased likelihood of vaccination, APR = 1.19, p = 0.004), caregiver awareness (APR = 1.74, p = 0.004), and community influence (adolescents were more likely to be vaccinated if their peers were vaccinated, APR = 1.19, p = 0.004). **Conclusion:** Caregiver awareness, adolescent education, and peer influence significantly affect HPV vaccination uptake. Strengthening

community engagement and caregiver education programs are critical to improving vaccination coverage.

88. **Joachim, D. (2024). Antenatal care providers' awareness of maternal diet's effect on offspring's non-communicable diseases risk in ilala. Muhimbili University of Health and Allied Sciences.**

ABSTRACT

Background: Non-communicable diseases (NCDs) are a significant public health concern and emerging evidence suggests that maternal diet, lifestyle and environment can influence the risk of NCDs in offspring. Awareness of antenatal care providers regarding these effects remains unclear. **Objective:** This study was aimed to assess antenatal care providers' awareness, access to information, available support and identified factors associated with their awareness on maternal diet's effects contributing to offspring's risk of NCDs. **Methods:** A cross-sectional study was conducted, structured questionnaires were used to collected data, descriptive statistics to summarize and binary logistic regression explored the relationships. Variables with a p-value of less than 0.2 were further analyzed in multivariate logistic regression to control confounders. Crude and adjusted odds ratios with their 95% confidence intervals were calculated to identify statistically significant associations ($p < 0.05$). Ethical approval was obtained and confidentiality was ensured. **Results:** The study included 380 ANC providers, majority were female (70.8%), age 25-34 years (43.7%). Diploma holders (61.6%), bachelor's degrees (29.7%). Nurses were the largest group (52.6%). Only 47.74% of ANC providers were aware of effects of maternal diet NCDs risks in offspring. 59% lack support and 60% lack access to information. **Discussion:** The findings show a gap since only 30.67% of providers were aware of risks of NCD in offspring while immediate health conditions such as low birth weight were well known (78.2%), chronic diseases like cancer were alarmingly under-recognized. Lack of support and access to information affects their ability to counsel expectant mothers effectively. **Conclusion:** The low levels of

awareness, lack of access to information and support indicates an urgent need for targeted educational programs and resources to empower ANC providers.

89. **John, D. (2024). Social-ecological factors influencing antenatal care service utilization among pregnant women in Ikungi district, Singida region, Tanzania. Muhimbili University of Health and Allied sciences.**

ABSTRACT

Background: In most developing countries the health care seeking behavior among pregnant women is still a challenge. In Tanzania pregnant women especially in rural areas seek for medical services when their health status is at critical stage leading to different maternal complications like maternal morbidity and maternal mortality which are the major public health challenges.**Objective**: This study aimed to explore the social-ecological factors influencing antenatal care (ANC) services utilization among pregnant women in Ikungi District Council, Singida region, Tanzania. **Methodology**: A qualitative phenomenological study was conducted at Ikungi DC involving 20 pregnant women participants who were attending ante-natal care clinic. These pregnant women were selected through purposeful sampling. The maximum number of participants was determined /through saturation of information. Thematic analysis was used to analyze data. **Results:** The financial, interpersonal, community, and institutional factors all play significant roles in determining access to and use of prenatal services among pregnant women. Findings revealed that most participants were married, peasant women with primary education who faced challenges such as distance to health facilities, income constraints, and transportation issues. Despite these challenges, there was high satisfaction with healthcare services, and minimal cultural or familial barriers were reported. Financial assistance, advice, and practical help from family members are essential in facilitating access to prenatal care. Community health workers and friends also contribute positively by motivating and accompanying women to clinics. Institutional factors, such as the distance to the clinic and the type of transportation available, significantly impact access to prenatal services. Awareness of free services and

the attitudes of healthcare providers also influence the likelihood of pregnant women seeking care. **Conclusion and Recommendation:** The Utilization of Antenatal care services are not adequate in Ikungi Dc as many women showed to have few attendances to Antenatal care services. Based on findings the government and Ministry of Health is recommended to improve accessibility to health facilities, enhancing transportation services, and implementing community education programs to increase pregnant women access to and use of antenatal services among pregnant women.

90. John, E.M. (2024). Adherence to dietary plan and associated factors among patients undergoing mechanical valve replacement at Jakaya Kikwete cardiac institute. Muhimbili University of health and allied sciences.

ABSTRACT

Background: Dietary plan adherence to patient with mechanical valve replacement remains an integral part of the proper functioning of the new valves and the maintenance of patient's hemodynamics in general. Several factors including patient-level factors, disease factors, and sociodemographic factors are linked with patient's adherence to the dietary plan. Complications associated with non-compliance to the dietary recommendations post heart-valves replacement can be severe and life threatening. **Objectives:** This study aimed to determine the level and factors associated with adherence to dietary plan among patients who underwent mechanical valve replacement at Jakaya Kikwete Cardiac Institute Dar es Salaam, Tanzania. **Methodology:** Cross-sectional study design with quantitative approach was used in this study. The study involved 334 patients with heart-valves replacement in the surgical ward and outpatient clinic at JKCI. Patients were selected by using systematic random sampling technique. Every study participant was interviewed by using interviewer-administered questionnaire to obtain data. Measures such as mean, standard deviation, proportions and regression analysis were used to analyze the data. **Results:** About 120 (35.9%) of the respondent were middle-aged (24–44 years old). Two third of the respondents were female 194(58.1%) and 145(43.4%) had primary school education. Furthermore,198 (59.3%) of

the respondents were married and the mean weight of the respondents were 66 kg. The majority of the respondents had high adherence to the recommended dietary plan 267 (79.9%) and high awareness of vitamin K rich food and fruits 256 (77.5%). The presence of chronic illness and the unavailability of suitable dietary needs for patients with mechanical valves around the hospital were main challenges facing respondents in following dietary plan as prescribed, 149(50.3%) and 148(50.0%) respectively. Marital status and having insurance were the predictors of the level of adherence to the dietary plan with 95%CI: 1.414-4.213, P=0.001 and 95%CI:4.54-15.79, P=0.001 respectively. Additionally, Knowledge on vitamin K rich food and fruits and who they received the counselling from had association with adherence to the dietary plan, 95%CI 0.005-0.030, P=0.001 and 95%CI 0.001-0.017, P=0.001 respectively. **Conclusions and recommendations:** Study found that patients' adherence to the recommended dietary plan was high. Marital status, having health insurance, knowledge on vitamin K rich food and fruits and health care provider who counsel the patients were significantly associated with level of adherence. Institutional policy advocacy is essential to help availability of suitable diet for in-patients, and multidisciplinary approach in planning individualized dietary plan is needed. Further research, particularly longitudinal studies, can provide deeper insights in monitoring changes in dietary adherence over a period of time and better understanding of causative factors.

Keywords: Adherence, Anticoagulants, Dietary plan, Factors, Mechanical valves**.**

91. John, N. (2024). Compliance with standard precautions and associated factors among healthcare workers at Mwananyamala regional referral hospital Dar es Salaam. Muhimbili University of Health and Allied Sciences.

ABSTRACT

Background: Compliance with infection prevention and control standard precautions is a significant challenge in many developing countries, including Tanzania, increasing the risk of healthcare-associated infections (HAIs) for both healthcare workers and patients. This study examined IPCSP compliance and its associated factors among HCWs at

Mwananyamala Regional Referral Hospital, Dar es salaam. **Objective:** The purpose of this study was to determine compliance with IPC Standard Precautions and its associated factors among health care workers at Mwananyamala Regional Referral Hospital. **Methodology:** This was a hospital-based cross-sectional analytical study conducted at Mwananyamala Regional Referral Hospital. Data were collected from 160 randomly selected healthcare workers, including doctors, nurses, and health attendants, through a closed-ended structured questionnaire. Data were analyzed using SPSS version 27, employing T-tests for continuous variables and Chi-square tests for categorical variables. A linear regression model was used for Compliancy to IPC standard as the dependent variable **Results:** In our study population the average age was 28 years (IQR 26-31), with 53.1% male and 46.9% female participants. Professionally, 26.3% were doctors, 49.4% nurses, and 24.4% attendants. Compliance with IPC standard precautions were low, with only 30.6% complying and 69.4% not complying with IPC standards. Compliance was significantly associated with profession (nurses more compliant than doctors and attendants, p value=0.009), work experience for more than five years, and prior blood/body fluid exposure (higher compliance among those exposed, p value=0.017). Provision of PPE and IPC training were also significantly associated with compliance (p-value=0.003 and p-value <0.001, respectively). Bivariate regression indicates that all behavioral factors showed strong positive associations with compliance. However, in multivariate regression, only PPE use remained a significant predictor (β=1.2, p value<0.001), while other factors were not significant predictors. **Conclusion:** Only 30.6% of healthcare workers at Mwananyamala Regional Hospital complied with infection prevention and control (IPC) standards, with nurses being more compliant than doctors and attendants. Compliance was higher among those with over five years of experience and prior exposure to blood or body fluids. Key factors for higher compliance included the availability of personal protective equipment (PPE) and regular IPC training.

92. **John, S.B. (2024). Radiological assessment of coronal angular knee deformities correction following temporary hemi epiphysiodesis using eight plates among**

pediatric patients attending at MOI - from January 2019 to December 2021. Muhimbili University of Health and Allied Sciences.

ABSTRACT

Background: Eight plate was first described by Stevens in 2007 and since then it has been most popular implant used for temporary hemi epiphysiodesis. However, few studies have focused on children aged less than 10 years treated eight-Plate. **Objective**: The aim of this study is to assess radiological restoration of normal limb alignment in pediatric patients with coronal angular knee deformity after temporary hemi epiphysiodesis using eight plates at MOI from January 2019 to December 2021 **Methodology:** This retrospective study included a total of 209 knees from 118 children (mean age of 10 years old, range from 3 to 15 years old) who underwent temporary hemi epiphysiodesis by using eight plates implant to correct coronal angular deformities in our hospital. Related radiological factors were recorded pre operatively, and post operative (before implant removal) and means, medians, frequencies, and percentages were used to summarize categorical variables, while continuous variables were evaluated using paired t-test. **Results:** Of the 209 knees, excellent results were achieved in 94.9%. Six knee (5.1%) had a partial/failed correction of the deformity. The mean preoperative & post-implant removal (post-IR) tibiofemoral angle of 19^0 (range 14^0 to 38^0) and 7 (range 0^0 to 20^0) respectively, required an average time period of 16.5months (6 to 42 month) for correction after which implants were removed. younger children had higher correction rate; and rate of deformity correction tend to slow down as the patient approach skeletal maturity [(age group) (3-5, 6-10, and 11-15) year, rate of deformity correction being (0.86, 0.77, and 0.69) °/month respectively. The average velocity of correction was found to be 0.77º/month across all age groups. Only six knees had failed correction of which 3 knee had screw breakage, 1 knee had deep wound infection and 2 knee had overcorrection of the deformity. **Conclusion:** The study demonstrates that eight plate fixation is a highly effective and relatively safe method for correcting coronal angular knee deformities in pediatric patients. However, the treatment shows a faster rate of deformity correction in patients with age less than 10 years and deformity correction rate

decreases constantly after ten years as children approach skeletal maturity. Few complications have been observed with the use of eight plate.

93. **Joseph, G. (2024). Prevalence of depression and anxiety, associated factors, and correlation with emotional dysregulation among school-attending adolescents in Dar es Salaam: a mixed method study. Muhimbili University of Health and Allied Sciences.**

ABSTRACT

Introduction: The rising global burden of mental illnesses among adolescents, particularly depression, anxiety, and emotional disorders, significantly impairs their ability to thrive. Half of the estimated cases start by 14 years of age, but the majority remain undetected and unattended. It is both critical and timely to establish the evidence that will support the need for routine screening and guide future intervention design to address these disorders among school-attending adolescents. Objective: To assess the prevalence of anxiety and depression, associated factors, and correlation with emotional dysregulation among school-attending adolescents in Dar-es-salaam. Furthermore, the study aimed to explore the perceived risk factors for anxiety and depression among parents, teachers, and adolescents themselves. **Methodology:** This mixed-method study involved adolescents from fifteen schools in Dar es Salaam. Depression, anxiety, and emotional dysregulation were assessed using PHQ-9, GAD 7, and DERS, respectively. The correlation of DERS with anxiety and depression was assessed using Spearman's rank test, whereas the Kruskal-Walli's test compared mean DERS subclass scores with anxiety and depression severity categories. Logistic regression was used to identify the factors associated with depression and anxiety. Perceptions towards depression and anxiety were explored using Focus group discussions and in-depth interviews followed by thematic analysis by using NVIVO version 11. **Results:** Among 1111 adolescents, the median age was 16 years, 59.6% were females, 62.2% were secondary school students, and 25.3% had separated/divorced parents. Overall, 50% had both anxiety and depression, 35.8% had depression only, and 35.2% had anxiety only. 4.7% of the

participants had co-existing moderate to severe forms of anxiety and depression. Emotional dysregulation scores increased with anxiety and depression severity. Depression was associated with orphan hood (aOR 3.26 95%CI 1.45-9.34) and longer home-to-school commuting time (aOR 1.21 95%CI 1.01-1.41). Private school adolescents had higher odds of anxiety (aOR 1.65 vi 95%CI 1.79-3.46). Adolescents who have witnessed their parents fighting had a higher likelihood of both anxiety and depression. Perceived risk factors included academic pressure, negative peer influence, and unstable family dynamics. **Conclusion:** Anxiety and depression were prevalent among school-attending adolescents in Dar-es-salaam. Emotional dysregulation had a positive correlation with depression and anxiety. Associated factors included negative family dynamics, orphanhood, academic pressure, and negative peer influence. Common adverse exposures among adolescents were parents' fights, sexual assault, and alcohol and substance use. **Recommendations:** Addressing anxiety and depression among school-attending adolescents requires routine screening, enhancing adolescents' emotional intelligence, and regulation of academic pressure. Community education on the negative effects of adverse exposures on adolescents is also paramount.

94. **Joseph, J. (2024). Process evaluation of implementation of integrated Malaria community case management in Muleba district in Kagera region. Muhimbili University of Health and Allied Sciences.**

ABSTRACT

Background: Malaria is a major public health challenge in Tanzania, particularly affecting pregnant women and children under five. In June 2022, Tanzania launched Integrated Community Case Management (iCCM) in hard-to-reach areas to enable community-based testing and treatment of uncomplicated malaria, with referrals for severe cases. Although evidence is available on the impact and challenges of iCCM intervention, little remains to be known about the effectiveness of implementation. This study evaluates the effectiveness of iCCM implementation, despite existing evidence on its impact and challenges **Objective:** This study aimed to evaluate the implementation of

integrated Malaria Community Case Management (iCCM) in the villages that implement iCCM strategies in Muleba District Council **Methodology**: This study employed a case study design with an explanatory qualitative approach. A total of twenty-five participants were purposively selected, including five iCCM providers, five health facility in-charges, five Village Executive Officer (VEO), and ten community members from the villages that implement iCCM in Muleba District Council. The sample size was determined by theoretical saturation. Data was transcribed verbatim, and a content analysis approach was used for data analysis. **Findings:** Availability of essential commodities and tools for iCCM was ensured through collaborative efforts between linked health facilities and iCCM providers, despite occasional stockouts. Capacity building through training and supervision was crucial for enhancing service delivery. Community engagement, facilitated by local leaders and Community Health Workers, promoted awareness and utilization of iCCM services, despite existence of challenges such as geographical barriers and financial constraints. **Conclusion**: The study found that iCCM implementation faces challenges in resource availability, logistics, equipment functionality, and transportation. Despite effective training and community engagement, stockouts and financial constraints disrupt service delivery. Improved communication, collaboration with community leaders, significantly enhanced iCCM services. **Recommendation:** NMCP and malaria implementing partners, should ensure continuous availability of essential commodities, enhance capacity-building efforts, promote community engagement, optimize logistical systems, improve transportation support, and address systemic challenges through collaboration between linked health facilities, local leaders, and communities.

95. **Joseph, T. (2024). Ethnomedical survey, antimycobacterial and phytochemical investigation of medicinal plants used by communities in magu district, Tanzania. Muhimbili University of Health and Allied Sciences.**

ABSTRACT

Background: Tuberculosis (TB) is a global health challenge, predominately in sub-Saharan Africa, including Tanzania. Despite 80% of the world's population relying on medicinal plants for health management, the indigenous knowledge of these medicinal plants is poorly documented. Documentation and investigation of the antimycobacterial activity of the medicinal plants is necessary for justification of ethno-medical information that can further be investigated for new anti-TB drugs. **Aim of the study:** The study aimed to investigate ethnomedical knowledge, anti-mycobacterial activity, and responsible secondary metabolite groups of selected medicinal plants used by the local communities in Magu District for the management of TB and its related symptoms. **Materials and Methods:** The purposive and snowball sampling methods were used to obtain 27 informants in Magu district. The microdilution method was used to investigate the antimycobacterial activity of the selected medicinal plants. The qualitative phytochemical screening was conducted as per standard procedures of chemical methods. **Results:** A total of 51 medicinal plant species were documented in the study area. The use value (UV) and relative frequency of citations (RFC) for the documented medicinal plants was high for, *Zanha africana* (1) (0.259), *Secundarica longipedunculata* (1) (0.259), *Turraea fischeri* (0.93) (0.22) *and Ximenia caffra* (0.67) (0.155) respectively. The minimum inhibitory concertation showed the decoction root extracts of *Dichrostachys cinerea* and stem bark of *Zanha africana* showed to be active against *Mycobacterium indicus pranii,* and *Mycobacterium madagascariense* at the concertation of 1667±589 µg/mL,2083±589 µg/mL and 417±147 µg/mL, 417±147 µg/mL respectively. The minimum inhibitory concertation of 80% ethanolic extracts of *Lannea fulva*, *Harrisonia abyssinica*, *Zanha africana*, *Maerua angolensis,* and *Dichrostachys cinerea* showed high activity against *Mycobacterium indicus pranii,* and *Mycobacterium madagascariense* at the concertation ranged from 19µg/mL to 1250µg/mL respectively. The phytochemical screening revealed the presence of tannins and phenols in all extracts and groups like saponin, flavonoids, terpenoids and alkaloids in some of the extracts. **Conclusion:** The indigenous knowledge held by the community in the study area is reliable and valid with the observed antimycobacterial activity of 80% ethanolic and decoction extracts.

96. Jubeki, G.G. (2024). Relationship between non-carious cervical lesions and dentine hypersensitivity and their impacts on oral health-related quality of life among adult patients attending Muhimbili dental clinics in Dar es Salaam, Tanzania. Muhimbili University of Health and Allied Sciences.

ABSTRACT

Background: Oral health-related quality of life in dentistry focuses on how individuals perceive the impact of their oral health on their overall well-being, assessing whether their current oral health status affects their quality of life. NCCLs describe tooth wear at the cementoenamel junction (CEJ) unrelated to caries or bacteria. The prevalence and severity of cervical tooth wear increase with age due to factors like bio-corrosion (erosion), friction (abrasion), and occlusal stress (abfraction). Erosion refers to the role of acids in tooth wear. NCCLs can appear as smooth saucer-like depressions or V-shaped notches, contributing to tooth hypersensitivity, increased caries incidence, compromised structural stability, and impacted plaque retention. DH is a prevalent condition causing temporary tooth pain triggered by various external factors. It can disrupt daily activities such as eating, drinking, tooth brushing, and even breathing. DH causes discomfort and inconvenience, impacting a person's ability to enjoy meals, maintain oral hygiene, and function during routine activities. The patient's quality of life may be significantly affected by these limitations. Recognizing the impact of DH is crucial for dental practitioners to provide appropriate management and improve the overall well-being of affected individuals **Objective:** The aim of the study was to determine the relationship between non-carious cervical lesions and dentine hypersensitivity and their impacts on oral health-related quality of life among adult patients attending Muhimbili dental clinics in Dar es Salaam. **Methods:** This was a hospital-based analytical cross-sectional study among 384 adult patients aged 18 years and above who attended the MUHAS and MNH-OPD dental clinics in Dar es Salaam from April to June 2024. A consecutive sampling technique was used. All patients awaiting dental treatment on a daily basis, totaling 325 participants aged 18 years and above who consented and met the inclusion criteria, were recruited into the study. Data on sociodemographic, economic characteristics and oral

health related quality of life were assessed using Oral Impact on Daily Performance (OIDP) were recorded using a structured questionnaire. Oral examinations were performed, and NCCLs was scored according to the Smith and Knight index (1984). The presence and severity of DH were determined using the tactile stimulus response according to the Schiff ordinal scale (1994). The combination of these clinical variables resulted in categories of the independent variable: without DH or vi NCCL, NCCL without DH, DH without NCCL, and both DH with NCCL. The covariables were socio-demographic, education level and economic factors. Statistical analysis was conducted using IBM SPSS Statistics for Windows, Version 26.0. Mean and standard deviation of variables were calculated. Association between dependent and independent variables were assessed through cross-tabulations and Chi-square tests. Modified poison regression analysis was used to evaluate variables related to OIDP. A Chi-square test was computed to determine statistically significant associations, with the threshold of significance **Results:** A total of 325 (response rate of 91.3%) patients with age ranging from 18 to 77 years participated in the study with a mean age of 45±7 years. Majority of the participants were female 67.1% and majority (39.5%) being in the age group 36 – 55 years with most of the participants having no steady income (56.3%) and secondary level of education and above of (81.8%, n=266). The prevalence of NCCLs and DH were 45.8% and 36.5% respectively, NCCLs are more prevalent in males compared to females, while DH is more commonly observed in females. The occurrence of DH was predominantly moderate, with 15.1% reporting discomfort or pain. Most participants with dentin hypersensitivity (DH) experienced mild to moderate pain (78.4%), while nearly half of those with non-carious cervical lesions (NCCLs) had mild pain (45.1%). Severe pain was less common, affecting only 21.6% of DH participants and 15.2% of NCCL participants. A strong association was found between NCCLs and DH, with 88.8% of individuals with NCCLs also experiencing DH ($p = 0.000$). Conversely, 92.0% of individuals without NCCLs did not report DH. Of 277 adults, 85.2% had oral health impact and the most affected performance was eating and chewing food (76.0%), followed by difficult cleaning (43.1%, n =140). Higher frequency of OIDP was observed in adults with DH and NCCLs. Modified Poisson regression analysis indicated that OIDP was significantly

associated with DH alone. The analysis showed that those with DH had higher ODDs of reporting at least one oral impact (aOR=2.83; 95% CI 1.04-1.25, p=0.005). **Conclusion**: NCCLs and DH are prevalent conditions among adults, with DH having a notably higher impact on oral health. Irrespective of NCCL presence, DH significantly impacts the physical pain dimension of OHRQoL.

97. **Julius, A. (2024). Factors affecting early identification of sepsis in nursing practice among intensive care nurses at Muhimbili National Hospital, Dar Es Salaam, Tanzania**. **Muhimbili University of Health and Allied Sciences.**

ABSTRACT

Background: Sepsis accounted for 19.7% of all deaths worldwide in 2017 with 11 million deaths and 48.9 million new cases. Sepsis rates are higher in low- and lower-middle-income nations. Critically sick patients may experience multiple organ dysfunction and even death if quick diagnosis and therapy are not initiated within an hour. ICU nurses can actively participate in the detection of sepsis by continuously monitoring patients and starting treatment in accordance with protocols. Every patient must be evaluated for sepsis at the beginning of every shift in order to maximize the likelihood of detecting those who are at risk. **Aim:** To explore the factors affecting early identification of sepsis in nursing practice among Intensive Care Unit nurses working in adult ICUs at Muhimbili National Hospital, Dar es Salaam, Tanzania. **Material and methods:** This was explorative descriptive qualitative study design. Purposive sampling was used to recruit study participants. In-depth interviews were conducted to 14 ICU nurses at Muhimbili National Hospital. The interviews were digitally recorded, transcribed verbatim and analyzed using thematic analysis to develop themes. **Results:** Three main Themes emerged: individual factors, environmental factors and institutional factors affecting early identification of sepsis. The individualized experience and knowledge on sepsis identification, environmental factors being the nurse patient ratio and medical equipment for sepsis care, and in institutional factors being training on sepsis and availability of screening tools of sepsis to critically ill patients. **Conclusion:** Early

sepsis identification is affected by a combination of individual, environmental and institutional factors. The more the individual's knowledge and experienced are, with proper nurse patient ratio, with availability of screening tools and training the better they can recognize early signs of sepsis.

Keywords: Sepsis, Early identification**,** Intensive Care Unit, Intensive Care Unit Nurse.

98. Juma, F.M. (2024). Assessment of malaria cases and associated factors for continued transmission in hotspot shehias in Magharibi B District, Zanzibar. Muhimbili University of Health and Allied Sciences.

ABSTRACT

Background: Malaria is a global health problem, with approximately 247 million cases reported worldwide, 95% of which occur in Africa. Tanzania's malaria prevalence is estimated at 8%, while Zanzibar has a significantly lower burden at less than 1%. Despite efforts to eliminate malaria in Zanzibar, hotspot Shehias in Magharibi B District experiences high periodic transmission. This study aims to identify factors associated with persistent malaria transmission in these hotspots Shehias. **Methodology:** An explanatory sequential study was conducted in the hotspot Shehias of Magharibi B district using a case-control study with one malaria case matched to three controls. Malaria cases notified from the coconut surveillance system were followed to the households, and controls were obtained from neighboring houses. Interviews using a structured questionnaire were conducted to collect data on socio-demographic, socio-economic, behavioral, and environmental factors contributing to persistent transmission. Descriptive analysis was performed to determine the frequencies of categorical variables. A conditional logistic regression model assessed the association between dependent and independent variables, with a p-value of < 0.05 set for significance. Additionally, the modified grounded theory approach was used for Focus Group Discussions (FGD) to collect data from Magharibi B residents from hotspot shehias, which were later transcribed and analyzed to reinforce the quantitative findings. **Results:** This study focused on individuals aged 15 years or older living in Magharibi B hotspot shehias. A

total of 144 participants from case–control and 48 malaria-negative individuals from 6 FGDs were interviewed. Findings show that Malaria cases were more common among males (69.4%), individuals aged 15–24 years (44.4%), and those with high knowledge of malaria (94.4%). Significant factors associated with malaria transmission included outdoor night stays (Adjusted Odds Ratio [aOR] = 4.73, 95% CI 1.04 – 23.35), and the presence of breeding sites (aOR = 4.48; 95% CI 1.04 – 19.27). FGDs identified additional factors such as negative attitude regarding Insecticide Treated Nets (ITNs) usage among males, outdoor night activities, misconceptions about ITN use, poor housing conditions, and unclean environments with discarded cans and bushes around settlements. **Conclusion:** Factors contributing to continued malaria transmission in hotspot Shehias in Magharibi B district include outdoor night activities, the presence of breeding sites, negligence, and mis ions about ITN use. The Zanzibar Malaria Elimination Program should promote behavioral change communication that go in line with entomological monitoring and lava source management.

99. **Juma, M. (2024). Prevalence of maternal near-miss and associated factors among delivered women in Pwani region in Tanzania. Muhimbili University of Health and Allied Sciences. Muhimbili University of Health and Allied Sciences.**

ABSTRACT

Background: Maternal Near-Miss (MNM) actions are related to greater healthcare costs, undesired outcomes for the mother and baby, decreased productivity, increased healthcare system, and a higher chance of maternal mortality. MNM refer to a woman who presents with life threatening complications during pregnancy, childbirth or within 42 days of termination of pregnancy but survived by chance or due to the standard care she received. It is recognized as valuable indicator to examine the quality of obstetrics care as it follows similar predictors with maternal death. Globally each year, more than 15% of women who turn out to be pregnant experience life-threatening complications. Investigation of Maternal-Near-miss and the associated risk factors is important for the global reduction of Maternal Mortality. **Aim of the study:** To determine the prevalence

of Maternal Near-miss and the associated factors among delivered woman in Pwani Region, Tanzania. **Material and methods:** Retrospective study design and quantitative approach was applied, to examine women who gave birth and admitted in Tumbi Regional Referral Hospital, Mkoani Health Centre and Mlandizi Health center in Pwani region from January 2020 to December 2023. The semi-structured questionnaires with closed ended questions were used to collect data from a total of 384 women who gave birth and admitted in those health settings. Data were cleaned, coded, edited and error checked before analyzed by social science software (SPSS) version 21 for analysis. Descriptive statistics like frequency, distribution, and summary statistics such as mean and standard deviation were computed. **Results:** Overall Maternal Near-miss of 25% showed a prevalence to Maternal Near-miss. Women who were Para 2-4 (aPR=5.77, 95% CI: 5.771-5.771), a history of abortion of more than once (aPR=0.13, 95% CI: 0.000-1.250), a previous history of C/S (aPR=0.201, 95% CI: 0.07-0.55) were more prevalence to maternal near-miss among delivered women as well as influencing factors of maternal near-miss to women were severe anemia in failure followed by eclampsia, age, education status and occupation of respondents. **Conclusion:** The overall prevalence to Maternal Near-miss was 25%. There is significant association of parity, history of abortion and previous history of C/S with prevalence to Maternal Near-miss. Influencing factors of Maternal Near-miss to women were severe anemia followed by eclampsia, age, education status and occupation of respondents. **Recommendation:** The study recommends that, Pwani region should designed evidence-based interventions to optimize the intra-partum management of life-threatening obstetric complications and future researches should examine on the cultural malpractice in the study area and its consequence concerning the prevalence to Maternal Near-miss. Moreover, improving the referral systems are crucial to minimizing the Maternal Near-miss.

100. Juma, S. (2024). Perspectives and experiences of caregivers in disclosing HIV serostatus to school-age children in Mara region, Tanzania. Muhimbili University of Health and Allied Sciences.

ABSTRACT

Background: Human Immunodeficiency Virus (HIV) continues to be a significant public health, especially in sub-Saharan Africa, where approximately 2.9 million children were living with HIV in 2020. Antiretroviral therapy (ART) is the most effective way of managing HIV, including in children. Caregivers are responsible for administering medications, managing side effects, and ensuring adherence to treatment schedules. However, caregivers face various challenges, including disclosing HIV seropositive status to their children. **Objective:** This study aimed to explore the perspectives and experiences of caregivers of school-age children attending ART clinics in the Mara Region in Tanzania regarding disclosing HIV seropositive status to children. **Methods**: This was a descriptive phenomenological study exploring how caregivers of HIV-positive children experience the process of disclosing their child's status. The study used purposive sampling to select caregivers of school-aged children (ages 6-14) attending Shirati Mennonite Church of Tanzania Hospital's care and treatment clinics in Rorya District, Mara Region, and Tanzania. They used an in-depth interview guide to gather data from these participants. Data collected from the in-depth interviews were transcribed verbatim and analysed thematically to identify key themes related to the perceptions and experiences of caregivers in revealing HIV seropositive status to their children. **Findings:** The findings revealed that the age at which caregivers choose to disclose serostatus to their children varies depending on their cognitive ability and self-awareness. The disclosure process was profoundly personal, and caregivers underwent emotional and spiritual preparations. Children's reactions post-disclosure were generally positive, though some experienced shock and distress. The decision to disclose was driven by the need to ensure the child's awareness of their HIV seropositive status and adhering to treatment. Some caregivers also felt that disclosing the status would help the children protect themselves and others as they approached adolescence. Reported challenges in the disclosure process included children's emotional distress and limited support from healthcare providers. **Conclusion:** Caregivers' motives for disclosing HIV seropositive status to their children are driven by a balance of perceived risks and benefits. Caregivers' experiences in revealing a child's HIV seropositive status are highly individualized, and they faced challenges in disclosing HIV seropositive status to children, emotional distress

and limited support from healthcare providers. This individual uniqueness underscores the need for healthcare workers to provide tailored support to assist caregivers in navigating the complex emotional and practical aspects of HIV seropositive status disclosure to their children to leverage perceived enablers.

101. Kaaya, G. (2024). Prevalence, disease severity, treatment options and median survival of patients with aplastic anemia who attended Muhimbili national hospital from 2018 to 2023. Muhimbili University of Health and Allied Sciences.

ABSTRACT

Background: Aplastic anemia (AA) is a rare bone marrow failure disorder characterized by pancytopenia and hypocellular marrow, primarily due to immune-mediated hematopoietic stem cell destruction. Its prevalence varies globally, and survival outcomes have improved with immunosuppressive therapy and bone marrow transplantation. However, recent data on AA prevalence and survival in Tanzania are scarce. **Aim:** This study aimed to determine the prevalence, severity, treatment options, and factors influencing the median survival of AA patients treated at MNH from 2018 to 2023. **Method:** In this retrospective cohort study, AA patients diagnosed and treated at MNH between January 2018 and December 2023 was reviewed. Clinical, laboratory, and demographic data were extracted from medical records. Descriptive statistics analyzed AA prevalence, demographics, disease severity, and treatment options. Kaplan-Meier curves and log-rank tests estimated survival. Cox regression assessed mortality risk factors, with statistical significance set at $p < 0.05$. **Results:** Among 577 pancytopenia patients, 156 (27%) had idiopathic AA, with a median age of 23 and a male-to-female ratio of 1.5:1. Severe AA was present in 85.9%. Treatments included cyclosporine (59.8%), supportive care (21.8%), and intensive IST (14.1%). The median survival was 158 days, with intensive IST showing the best outcomes, while supportive care increased mortality. **Conclusion:** Intensive IST significantly improves survival in AA patients. However, many patients still rely on supportive care due to socioeconomic barriers, impacting outcomes. This study provides critical data on AA demographics, treatment,

and survival in Tanzania, contributing valuable insights for healthcare practitioners and policymakers.

102. Kaaya, J.M. (2024). Prevalence of urinary tract infections, associated factors, and antimicrobial susceptibility patterns of the uropathogens isolated from heart failure patients on sodium-glucose transporter 2 inhibitors at Jakaya Kikwete Cardiac Institute. Muhimbili university of health and Allied Sciences.

ABSTRACT

Background: Urinary tract infections (UTIs) are among the most encountered infectious diseases, with a global incidence of at least 150 million annually. UTI can occur because of a variety of risk factors, including the administration of certain drugs. Sodium-glucose transporter 2 inhibitors (SGLT2i) have recently emerged as a standard therapy for heart failure patients, and evidence has shown the drug to confer mortality benefits and reduce hospital readmission. Despite its undeniable benefits, previous studies have reported an association between SGLT2 inhibitors and a high risk of UTI. The management of UTI can be complicated due to the resistance of the uropathogens towards the commonly used antibiotics. Therefore, urgent information is required on the prevalence of UTIs among patients using SGLT2 inhibitors and the antibiotic susceptibility pattern of the isolated uropathogens. **Broad objective:** This study aimed to investigate the prevalence of UTI, associated factors and evaluate the antimicrobial susceptibility patterns of the isolated uropathogens among heart failure patients using SGLT2 inhibitors at Jakaya Kikwete Cardiac Institute (JKCI). **Methodology:** This cross-sectional study was conducted among heart failure patients using SGLT2 inhibitors at JKCI. A structured questionnaire was used to collect participant socio-demographic characteristics, and a case report form was used to record medical and medication history, together with laboratory result data. UTI was defined by positive cultures with significant bacteriuria of ≥105 CFU/ml as a gold standard, and urinalysis parameters including pyuria, and positive or negative nitrites. Antimicrobial susceptibility test (AST) was performed for the isolated uropathogens using the Kirby Bauer disc diffusion method according to the Clinical and Laboratory

Standards Institute (CLSI) guidelines and susceptibility patterns were recorded based on tested antibiotics, Statistical data analysis was performed by Statistical Product and Service Solution (SPSS) software version 26 (IBM SPSS Statistics, IBM Corp, Armonk, NY, USA). For analytical statistics, univariable and multivariable as well as Poisson robust regression models were used to assess the association between positive UTI and the risk factors such as age, sex, comorbidities, previous history of UTI, type of SGLT2 inhibitor, and duration of use of SGLT2 inhibitors. Moreover, the Pearson Chi-square test was also used to establish an association. The 95% confidence intervals were obtained, and p values <0.05 were considered statistically significant. **Results:** Out of 141 patients, more than half were males (55.3%) and individuals aged ≤60 years (53.9%). Empagliflozin (53.2%) and dapagliflozin (46.8%) were the main SGLT2 inhibitors used, with most patients using them for less than 4 months (87.0%). The prevalence of UTI among study participants was 15.6%. Compared to the culture and sensitivity test used for diagnosis, urinalysis showed a high sensitivity (100%) and lower positive predictive value (46.8%). Advanced age (>60 years) significantly increased UTI risk (aPR 3.77, 95% CI: 1.42-10.01), also the female sex (aPR 2.92, 95% CI: 1.19-7.15) was a risk for UTI. Moreover, a longer duration of SGLT2 inhibitor use (≥4 months) was also associated with a higher likelihood of UTI (aPR 3.19, 95% CI: 1.70-5.96). Uropathogens isolated included Escherichia coli (50%), Klebsiella pneumoniae (13.6%), Klebsiella oxytoca (9.1%), Pseudomonas aeruginosa (9.1%), Candida spp (9.1%), Staphylococcus aureus (4.5%), Staphylococcus saprophyticus (4.5%). High resistance of the uropathogens was noted for Ampicillin (99.9%), Tetracycline (69.2%), Ceftazidime (53.8%), Ceftriaxone (46.2%), and Gentamicin (46.2%). In contrast, the uropathogens were more susceptible to Nitrofurantoin (84.6%) and Meropenem (100%). **Conclusion:** This study has shown UTIs are prevalent by 15.6% among heart failure patients who were on SGLT2 inhibitors This study highlights significant socio-demographic and clinical factors associated with UTIs among heart failure patients using SGLT2 inhibitors. Advanced age, female sex, prolonged medication use, and post-menopausal status are key risk factors. Commonly isolated uropathogens included Escherichia coli, Klebsiella spp, Pseudomonas aeruginosa, Staphylococcus spp, and Candida spp. The

bacterial uropathogens were highly resistant to Ampicillin, Tetracycline, Ceftazidime, Ceftriaxone, and gentamicin. While more susceptible to Nitrofurantoin and Meropenem. These study's findings therefore inform clinical practice and show the importance of targeted monitoring and preventive strategies to mitigate UTI risk in this vulnerable population. Continued research and clinical vigilance are essential to optimize heart failure patient management on SGLT2 inhibitors and reduce the burden of UTIs.

103. Kaihura, J. (2024). Experiences of youth and service providers on the internet-based approaches for delivering sexual reproductive health information among youth in Kinondoni District, Dar es salaam. Muhimbili university of health and Allied Sciences.

ABSTRACT

Background: Despite agreements made globally on youth and adolescents' sexual and reproductive health and rights, youth and adolescents in low and middle-income countries still have poor access to and utilization of these services. Different research has revealed the potentiality of applying internet approaches for sexual reproductive health information, despite the efforts from these researchers, there is limited evidence on the youth and service provider's experiences on internet-based approaches for delivering Sexual Reproductive Health information among youth. **Objective:** This study aimed to explore the youth and service providers' experiences on the internet-based approaches for delivering sexual and reproductive health information among youth in Kinondoni district, Dar es Salaam. **Methodology**: This qualitative study used a phenomenological study design that was applied among Youth, and Service providers in Dar es Salaam from August to November 2023. In-depth interview (IDI) and Focus Group Discussion (FGD) methods were used. The sample size of 31 participants was selected purposefully. A qualitative thematic analysis method was applied to identify, analyze, and report themes within data. **Results:** The study revealed that from their experiences service providers perceive internet-based approaches for SRH information and services to youth to be useful and may lead to positive impacts. Moreover, youth shared their experiences with the existing internet-based approaches that they use to access various SRH information

including social media and mobile applications. Furthermore, the youth mentioned that their preferred platform should be on WhatsApp but also linked to other platforms such as Instagram, Facebook, and TikTok pages, the content should be in the form of edutainment and presented by a health professional and youth for it to be trusted. **Conclusion and recommendation:** The study has shown that more youth-friendly services should be introduced at physical facilities so that the internet-based approaches can be used as a complement by referring its beneficiaries to facilities for services. The study recommends that stakeholders should invest in internet-based approaches when addressing the youth's low access to SRH information and services challenge because these approaches are user-friendly to youth.

104. Kalegi, W.M. (2024). Assessment of clinical management of women with pre-eclampsia with severe features and maternal and fetal outcomes at Amana hospital in Dar es salaam Tanzania. Muhimbili University of Health and Allied Sciences.

ABSTRACT

Background: Pre-eclampsia with severe features (PEWSF) is serious complications of pregnancy have significant contribution to maternal morbidity and mortality, particularly in resource-limited settings. Despite the availability of the management guidelines, many hospitals face challenges in managing these conditions. The clinical guideline in management of PEWSF was recent introduced. The adherence to clinical guideline is critical particular to low- and middle-income countries due to shortage of nursing staff. However, the adherence of the guideline is not well known. Understanding the current practices and adherence to clinical guidelines is crucial that may help to identify areas for improvement in the management of pre-eclampsia with severe features (PEWSF), ultimately contributing to enhanced maternal healthcare outcomes. Adherence to clinical guidelines is critical. It might also highlight specific challenges faced in resource-limited settings, providing a clearer rationale for **the study Aim of study:** To determine the association between adverse maternal and fetal outcome and clinical management of women with PEWSF at Amana Regional Referral Hospital. **Materials and Methods:**

Hospital-based retrospective cohort study was employed a total 200 patients' files diagnosed with PEWSF from 1st January 2023 to 31st December 2023.At Amana Regional Referral Hospital. Simple random sampling technique was utilized to select the cases; Assessment was done by extraction of information from both patients' files and Hospital electronic database. Obtained data were summarized and analyzed using Statistical Package for Social Science (SPSS) program version 27. **Results:** The prevalence of adherence to clinical guidelines was found to be 25 (12.5%), with adherence rates varying across different guideline components: maternal and fetal management 117 (58.5%) and monitoring maternal and fetal wellbeing and follow-up management 131 (65.5%), while a small prevalence adhered to assessment of maternal and fetal 69 (34.5%). Adverse fetal outcome: those children with gestational age ≥ 37 weeks and above had lower odds of adverse fetal outcome (95% CI: 1.469–7.741, p =.004) compared with gestational age below 37 weeks. There were high rates of fetal complications (52.5%), and prematurity (21.5%) was the most common complication identified. **Conclusion:** The study highlights significant challenges in adhering to clinical guidelines for managing PEWSE, with poor adherence. Gestational age 37 and above was protective from fetal complications. There is a need to place emphasis on regular education sessions for healthcare providers on the implementation of the clinical management guidelines in the management of pre-eclampsia with severe features (PEWSF).

Keywords: Adherence to guideline, adverse maternal, PEWSF, clinical management.

105. Kaloya, F. (2024). Experience of caregivers in providing care to terminally ill cancer patients at Ocean Road cancer Institute, Dar es salaam, Muhimbili University of Health and Allied Sciences.

ABSTRACT

Background: Cancer is a significant cause of death worldwide and is among the top two causes of death after heart disease; its treatment has far-reaching consequences, affecting not only patients but also caregivers and family members. Caregivers face numerous

physical and emotional challenges when providing care to people suffering from life-threatening illnesses such as cancer. At Ocean Road Cancer Institute, around 65000 patients are attended regularly per year, including 10000 new cases and more than 55000 follow-up cases from all over the country and nearby countries. Around 300 are admitted yearly to the critical care unit. This research shed light on the understanding of caregivers' experience of providing care to terminally ill cancer patients in Dar es Salaam, **Objectives:** The study aimed to explore caregivers' experiences in providing care to terminally ill cancer patients at Ocean Road Cancer Institute (ORCI). **Methodology:** A descriptive phenomenology study design was conducted among caregivers of terminally ill cancer patients at ORCI in Dar es Salaam. A sample size of 10 participants was obtained. After reaching information saturation, the study adopted a non-probability sampling procedure and employed a purposive sampling technique. The data was collected using an in-depth method. A semi-structured interview guide with an audio recorder was used to collect the data. Data were transcribed verbatim and then translated from Swahili to English. Thematic analysis was used to analyze the data. **Results:** The study identified several facilitators and challenges caregivers face, including social support networks, new experiences and skills, adapting to patient problems, and good adherence to medical guidance in facilitators caring for terminally ill patients. Physical and emotional exhaustion, financial problems, reduced social interaction, which can lead to loneliness, and emotional stress were the main challenges in caring for terminally ill cancer patients. **Conclusion:** The study reveals that caregivers of terminally ill cancer patients experience a complex interplay of facilitators including social support, acquiring new experience, adapting to patient behavior good adherence to medical guidance and challenges which include physical and emotional exhaustion, financial problem and reduced social interaction. These challenges often lead to overwhelming feelings, with inadequate support systems exacerbating their burdens. Caregivers need specialized attention to address these issues, alongside material support, that considers their emotional and psychological well-being. Study recommended further studies on social-economic effect of caregiving terminally ill cancer patients.

106. Kamala, G. (2024). Treatment outcome among patients with empyema thoracis undergoing decortication at Muhimbili national hospital. Muhimbili University of Health and Allied Sciences.

ABSTRACT

Background: Empyema thoracic is collection of purulent within pleural space or pleural fluid which is gram or culture positive for bacteria. Common cause of empyema thoracic is pneumonia and its subsequent parapneumonic effusion in developed countries where as in developing countries Tuberculosis is the leading cause of empyema thoracic Empyema is rare disease but associated with significant morbidity and mortality. Due to delayed health seeking and delayed referral most patient in our setting attend referral hospital during chronic stage of empyema thoracis. During this period there is thickening of pleural membrane resulting in thick cortex which impair lung expansion, retract diaphragm and ribs toward cortex resulting in deformity of affected side of chest. At this stage in our setting treatment of choice is decortication The available study at MNH was conducted 33 years ago on patients' characteristics, etiology of empyema, treatment modalities and outcome post decortication. Since then, there has been improvement in diagnostic tools, treatment modalities, post operative care and overall outcome has improved but no recent study that has been conducted to determine treatment outcome of decortication and factors associated with morbidity and mortalities **Methodology:** This was hospital based Retrospective cross-sectional study design conducted at Muhimbili National Hospital, which included patients aged 18years and above with chronic empyema thoracic who underwent decortication for previous five years from January 2018 to December 2022. Convenience sampling method was used to recruit patients with eligible inclusion criteria. Demographic data, clinical symptoms, comorbidities, findings during decortication and post-operative radiology parameters were collected for comparison among patient with good and poor outcome. Data was collected using questionnaire and extracted information was analyzed using the statistical package for social sciences (SPSS) vi version 26 Multivariate logistic regression analysis was be used to identify variables that are associated with poor outcome **Results.** During previous five

years, 122 patients with chronic empyema thoracis underwent decortication, majority were below 45years with median age of 40years (IQR 30 - 56), with male preponderance (72.1%). Most of them presented with symptoms for more than 2months70.5% which included shortness of breath 96.7%, chest pain 82%, productive cough 50% and few had fever 20.5% and dry cough 9.8%. Tuberculosis was the most common etiology of empyema thoracis 47.5%. Majority of patients attained full lung expansion and resolution of empyema thoracis 73.8%, among the adverse events persistent empyema13.9% and death 5.7% were the common complications. Old age, dry cough and left sided empyema thoracis were predictors of poor outcome for patients undergoing decortication. **Conclusion.** Still Tuberculosis is the commonest cause of empyema thoracis among patients attended at our centre, old age, left sided empyema thoracis and dry cough were identified as predictors of poor outcome for patients undergoing decortication. Based on this study we recommend proper evaluation and optimization of older patients before undergoing decortication, followed by closed monitoring after surgery. Presence of vital structures on left side of the chest and dry cough associated with lung fibrosis entail surgeons to take adequate precautions during decortication.

Keywords: Chronic empyema thoracis, Thoracotomy, Decortication and Treatment outcome.

107. Kamala, I.I. (2024) Healthcare providers' positive and challenging experiences in implementing the non-medical elements of respectful maternity care at Nyamagana District Hospital in Tanzania. Muhimbili University of Health and Allied Sciences.

ABSTRACT

Background: The World Health Organization emphasizes integrating and providing respectful maternity care (RMC) as a universal human right to improve maternal and neonatal health outcomes. However, despite this emphasis, exploring RMC through the healthcare workers' perspective, particularly regarding the non-medical elements, remains inadequately documented, especially in Low—and Middle-Income Countries

(LMICs) like Tanzania. The relationship between non-medical RMC and quality of care is crucial in shaping the birth experience and influencing birth outcomes, particularly in the Tanzanian context. Therefore, a deeper exploration of how this is implemented from a provider's perspective is needed to understand the implications on maternal health outcomes better. **Objective:** To explore the experiences of health care providers in implementing non-medical elements of respectful maternity care at Nyamagana District Hospital in the Mwanza region. **Methods:** This qualitative study employed the phenomenological design using in-depth interviews with 12 nurses selected through purposive sampling. The interviews were audio recorded, transcribed, translated, and thematically analyzed using Braun and Clarke's method. The thematic analysis enabled the identification of key themes regarding dignity, confidentiality, and communication in the provision of RMC. **Results:** Three main themes emerged: dignity, confidentiality, and communication, each with specific barriers and facilitators affecting RMC implementation. Study participants reported several challenges, including high patient load, inadequate facilities, and insufficient training, which affected their ability to uphold dignity and maintain confidentiality. Shared spaces hindered privacy, and high workloads and limited communication skills training impeded effective communication with patients. Despite these barriers, the participants highlighted the significance of small acts of kindness and emphasized the positive impact of maintaining respect and empathy during maternity care. **Conclusion:** The study highlights the need for ongoing training on RMC for healthcare providers. However, training alone is not enough; it must be coupled with efforts to strengthen health systems such as improving infrastructure for patient privacy, ensuring essential resources, cultivating a supportive work environment, and providing cultural competence training to enhance the quality of RMC, ensuring that all women receive dignified, respectful and confidential care during childbirth.

108. Kamara, J. (2024). Effect of ambient particulate matter on respiratory health of school children in the city of Dar es salaam, Tanzania. Muhimbili University of Health and Allied Sciences.

ABSTRACT

Background: In Dar es Salaam, Tanzania, the escalating urbanization and industrial activities have significantly contributed to the deterioration of air quality, with ambient particulate matter (PM2.5 and PM10) posing a major public health concern. The impact of these pollutants on the respiratory health of vulnerable populations, particularly schoolchildren, has remained inadequately studied. **Objective:** This study aimed to determine the level of ambient particulate matter (PM2.5 and PM10) and its association with respiratory symptoms among school children in Dar es Salaam, Tanzania. **Material and Methods:** Employing a cross-sectional analytical design in Dar es Salaam, Tanzania, this study targeted schoolchildren aged 9-16 to explore air pollution's impact on respiratory health. With a sample of 427 children selected through stratified random sampling, it combined primary and secondary data. Standardized questionnaires and air quality monitoring for PM exposure were used to collect data. Analysis methods included descriptive statistics, logistic regression, and geospatial analysis to elucidate the relationship between PM exposure and respiratory symptoms. **Results:** The prevalence of respiratory symptoms among the schoolchildren was notably high, with 35.1% reporting coughing, 26.7% wheezing, 31.4% breathlessness, and 28.1% severe chest illness. Significant associations were found between proximity to pollution sources, household smoking, and the use of biomass for cooking with the occurrence of respiratory symptoms. Ambient PM levels, particularly PM2.5 and PM10, exceeded WHO limits in several locations and seasons. WHO recommends PM2.5 levels below 5 μg/m³ and PM10 below 15 μg/m³, while Dar es Salaam recorded PM2.5 between 35-50 μg/m³ and PM10 between 75-100 μg/m³, significantly higher than recommended **Conclusion:** The study emphasizes the significant impact of air pollution on the respiratory health of schoolchildren in Dar es Salaam, calling for targeted interventions to reduce particulate matter exposure, particularly in high-risk urban areas. **Recommendations:** Key actions include strengthening emission standards, improving traffic management, and establishing continuous air quality monitoring and health surveillance. Public awareness campaigns and promoting green spaces are also crucial, alongside collaborative efforts and further research for comprehensive air quality management**.**

109. Kang'ombe, C. (2024). Myocyte enhancer factor 2c mutation analysis among children with isolated congenital heart diseases at Jakaya Kikwete Cardiac Institute. Muhimbili University of Health and Allied Sciences.

ABSTRACT

Background: Congenital heart disease (CHD) is the malformation of the developing heart and/or major great vessels. It is the most common type of birth defect in humans (8 per 1000 live births worldwide). For the normal development process, the heart requires an intricate interplay between genetic factors and environmental factors. The etiology of congenital heart disease is postulated to be multifactorial, including environmental factors such as maternal exposure to teratogens and genetic factors such as mutations in cardiac transcription factors. Nonetheless, most of the causes of CHD in our setting are unknown, bringing a setback to assessing risk control measures. **Objective:** To determine the myocyte enhancer factor 2C gene mutation and non-inherited risk factors among infants with congenital heart diseases at Jakaya Kikwete Cardiac Institute. **Materials and methods:** This was a retrospective case-control study. Infants with CHD and those without CHD were recruited from Jakaya Kikwete Cardiac Institute. Peripheral venous blood was obtained followed by genomic DNA extraction. The extracted DNA was amplified by conventional PCR using Myocyte enhancer factor 2C (MEF2C) gene primers for exon 1 and 11, and the amplicons were confirmed by gel electrophoresis. The PCR products were purified and sequenced using a big dye terminator cycle sequencing kit. The obtained FASTA sequences were subjected to multiple sequencing alignment using clustalW. We used heuristic sequencing alignment approach set for humans (taxid:9606), transcript variant 19. The obtained single nucleotide polymorphisms were analyzed by a mutational taster. Swiss computational model was used to obtain secondary protein structure. Non heritable factors were analyzed using SPSS version 23. **Results:** Non-synonymous mutations were identified in an 8-month-old female patient with Tetralogy of Fallot and VSD (c.64_65insA equivalent to p. T22N), (c.54_55insGA equivalent to p. V19E) and (c.36_37insA equivalent to p. D13R). In a male infant, 8 months old with Pulmonary atresia, Patent ductus arteriosus, and Truncus atresia (c.

185T>A equivalent to p. M62K), which were predicted to be pathogenic. Folic acid deficiency, prematurity, and prenatal maternal alcohol use were associated with the occurrence of congenital heart diseases (P-value = 0.02, <0.001, and <0.001 respectively). **Conclusion:** This study associates MEF2C gene mutation withcongenital heart diseases, providing novel insight into molecular mechanisms underpinning CHD.

110. Kanika, D.D. (2024). Erectile function and associated factors among kidney transplant recipient men before and after transplantation at Muhimbili National Hospital: a cross-sectional study. Muhimbili University of Health and Allied Sciences.

ABSTRACT

Background: The impact of kidney transplants specifically on improving erectile function is still a controversial research outcome globally. **Objective**: This study aims to assess the erectile function and associated factors among male kidney transplant recipients (KTRs) before and after transplantation at Muhimbili National Hospital (MNH), Dar es Salaam, Tanzania. **Methodology**: A hospital-based cross-sectional study was conducted on kidney transplant recipient men at MNH from January 2024 to May 2024. The IIEF-5 tool was used to assess erectile function before and after transplantation. The study utilized bivariate and multivariate ordinal logistic regression analysis employing a generalized estimating equation technique for repeated measures to explore associated factors **Results:** A total of 67 adult male kidney transplant recipients (KTRs) with a mean age of 46.9 years, and an age range from 30 years to 72 years were available for analysis. Prevalence of erectile dysfunction (ED) before and after transplantation was 88.1% and 97% respectively. The overall severity status of erectile dysfunction among KTRs revealed that after kidney transplantation 14% had improved severity of ED, 46% had unchanged severity of ED and 40% had a worsened ED. Depression (aOR=0.4, 95% CI=0.12-0.82, p-value =0.012) and iterative transplantation (aOR=5.07, 95% CI=1.87-13.73, p-value 0.001) were independently found to have significant association with erectile dysfunction and its severity. **Conclusion**: The

prevalence of ED among KTRs is high before and even higher after kidney transplantation. Depression and iterative transplantation were independently found to have significant association with erectile dysfunction and its severity. **Keywords:** Prevalence, severity, associated factors, Erectile dysfunction, Kidney transplant, Tanzania, Sub-Saharan Africa.

111. Kanisius, M.G. (2024). Quality of data after Decentralization of civil registration and vital statistics in Iringa region 2016 -2022. Muhimbili University of health and allied sciences.

ABSTRACT

Background: Globally, the Civil Registration and Vital Statistics (CRVS) Systems are insufficient to meet the needs of various governments, as approximately one-third of births go unrecorded and approximately half of deaths go unreported. More than one billion individuals worldwide lack a legal identification, which implies that they could be denied their rights, access to services like health and education, and involvement in political and economic progress. In the majority of Sub-Saharan African (SSA) nations, the CRVS is not complete. Tanzania is now undergoing several reforms on CRVS systems including legal review reforms which have accelerated the decentralization of CRVS services in many regions in the country since 2013. It's therefore important to strengthen the CRVS systems to make sure that all vital events that happen in our territories can adequately be accounted for. **Aim of the study:** This study aimed at assessing the quality of data after decentralization of Civil Registration and Vital Statistics in Iringa Region 2016-2022. Materials and methods: The goal of this study was to conduct a mixed-methods analysis of CRVS data obtained from all healthcare facilities via the District Health Information System (DHIS2) and Civil Registration Centers (wards) under Local Government Authorities (LGAs) via CRVS databases. This data was from all Councils of the Iringa region (Rural and Urban Councils) which was the first region to decentralize death registration and deploy various interventions to improve the quality of causes of death data as completed by the clinicians through the Medical

Certificate of Cause of Death forms. In addition, qualitative data was collected and analyzed to determine factors that led to the change in trends of CRVS data in Iringa, whereby the structured questions through a questionnaire were completed by officials at ward level who collect data and those who are decision-makers from the key CRVS implementing institutions (MoH, RITA, and PoRALG). Data on death registration completeness was analysed by using STATA and quality of causes of death was analysed by using ANACoD3. **Findings:** This study included a total of 295 health facilities (privately and government owned) and wards responsible for collecting and registering vital events in the Iringa region. The findings revealed an enhancement in the CRVS system following the vi implementation of interventions in Iringa, specifically in the quality of medical certification of causes of death. The percentages increased from 86% in 2016 to 93% in 2019, 91% in 2020, 92% in 2021, and returned to 86% in 2022, aligning with the baseline level. Notably, seven ill-defined causes (Infectious and parasitic diseases, Neoplasms, Diseases of blood, Diseases of the circulatory system, Symptoms and signs, and External causes of morbidity and mortality) consistently appeared throughout the five-year study period. Meanwhile, the overall completeness of death registration in the entire region was initially low for both males (12.4%) and females (6.7%) before the necessary interventions. However, after the application of interventions, completeness increased to 15.2% for males and 14.9% for females in the year 2022. Over the five-year period, the trend in completeness for males was slightly higher compared to females. Scaling up interventions through institutionalization was observed to be a critical step towards CRVS improvement. **Conclusion:** There has been a positive improvement in the quality of Civil Registration and Vital Statistics (CRVS) in the Iringa region during the study period. However, this improvement has been incremental, with some fluctuations in the quality of CRVS observed. These variations can be attributed to the challenges on negligence in using CRVS guidelines that persisted throughout the region over the years covered by the study. It is crucial for the government and other stakeholders to take into consideration the proposed interventions highlighted in this study. Addressing these interventions is essential to bridging the existing gaps before extending the interventions to additional regions. Keywords: Civil Registration

and Vital Statistics, Completeness, Medical Certification of Causes of Death, and death registration.

112. Kapiteni, F.M, (2024). Knowledge, attitude and perception towards uterine artery embolization for treatment of uterine fibroids among healthcare workers and patients attending Muhimbili National Hospital. Muhimbili university of health and Allied Sciences.

ABSTRACT

Background: Uterine fibroids are a prevalent condition among women of child bearing age, often leading to significant morbidity and mortality. Uterine Artery Embolization (UAE) is a minimally invasive treatment option for uterine fibroids; knowledge, attitude and perception of UAE may influence its utilization. Despite availability at Muhimbili National Hospital (MNH), its proven efficacy and safety; the adoption of UAE in low-resource settings like Tanzania remain limited. **Objective:** This study aimed to assess the knowledge, attitudes, and perceptions towards UAE between HCWs and patients (women diagnosed with uterine fibroids) at Muhimbili National Hospital from December 2023 to June 2024. **Materials and Methods:** A cross-sectional study using a quantitative approach was conducted among 94 HCWs and 127 patients (women diagnosed with uterine fibroids) attending MNH's Radiology and Obstetrics/Gynaecology departments. Data were collected using structured questionnaires to obtain sociodemographic characteristics, knowledge of UAE, attitudes towards the procedure, and perceptions of its effectiveness and preference. With assistance of SPSS 26 software, descriptive statistics and chi-square tests were appropriately applied as statistical data analysis tools. **Results:** Total of 221 participants were analyzed; 94 (42.5%) healthcare workers and 127 (57.5%) women diagnosed with uterine fibroids. Overall participants mean age was 33.99 years (SD ± 7.99), all (100%) participants reported having ever heard of UAE and they get information about the UAE procedure from Health care provider and from the internet (53% and 43% respectively).In overall UAE procedural knowledge was low as about half of respondents knew UAE as: 47.3% a minimally invasive procedure; 52.6%

performed by interventional radiologists; 57.5% tiny particles are used to block blood vessels supplying fibroids; 57.4% use of moderate sedation. Knowledge on indications of UAE was low; 48.3% mentioned symptomatic uterine. fibroid; 48.5% need to preserve the uterus and fertility and 40.9% treatment of postpartum hemorrhage. However, the knowledge on contraindications of UAE was adequate as; pregnancy, allergic to contrast media and uncorrectable coagulopathy reported by 70.9%, 67.6% and 66.0% respectively. About UAE complications, less than half know that allergy 47.4% and thrombosis 42.9% are complications. Most healthcare workers have a adequate knowledge about the UAE however, it is not reflected by patients. Attitude towards UAE was poor as 42.1% thought it was a safe procedure; 38.6% novel alternative treatment option to myomectomy for fibroids and 40.7% proffered in patients seeking future pregnancies. Perception of UAE was also inadequate; Less than half 42% participants believing UAE involves a shorter hospital stay and allows women to go back to work and other activities sooner. The results overall showed preference in recommendation to patient 145(66.5%) and more knowledge was equally preferred in more than one third of participants 86(45.3%). **Conclusion:** Overall knowledge of UAE contraindication was up to standard however, knowledge on the procedure, indication and complications was low leading to poor attitude and perceptions toward UAE. Again, HCWs as compared to women with fibroids exhibited significant knowledge on every aspect of UAE. Thus, IR and other stakeholders should prioritize comprehensive patient education regarding the UAE.

113. Karaba, J. (2024). Magnitude and factors associated with diagnostic delay of tuberculosis among adults in Tarime dc, Mara region, Tanzania. Muhimbili University of health and allied sciences.

ABSTRACT

Background: Tuberculosis (TB) is a curable infectious disease, yet it remains a global health concern, especially in sub-Saharan Africa. Tanzania, a high-burden country, faces significant diagnostic delays in TB management. Prompt diagnosis is essential to reduce

transmission and improve outcomes. **Aim of the study:** This study aimed to determine the magnitude and factors associated with delays in TB diagnosis among adult TB patients in Tarime District Council. **Materials and methods:** A cross-sectional study conducted from May to July 2024 involved 254 adult TB patients from six DOT centers in Tarime District Council. Data were collected through interviews and patient file reviews. Diagnostic delay was defined as a summation of ≥ 30 days including; personal delay (≥23 days from symptom onset to health facility visit) and facility delay (≥7 days from sample collection to result). Data were analyzed using STATA version 18, with modified Poisson regression identifying factors associated with delay. **Results:** Of 254 participants (median age 39 years [IQR: 28-50]; 61.0% male), 54.7% had basic education, and 53.6% were employed. Median distance to health facilities was 5 km [IQR: 3-8]. High TB knowledge was found in 61.0%, while 26.4% reported stigma. Diagnostic delay prevalence was 16.9%, with median patient and facility delays of 20 and 6 days, respectively Main delay reasons included lack of symptom awareness (60.5%) and difficulty accessing healthcare (18.6%). Stigma (adjusted prevalence ratio (APR)=3.40; 95% CI 1.79,6.64),alcohol consumption (PR=1.84; 95% CI 1.14,2.99), increased distance to facilities (PR=1.12; 95% CI 1.08,1.16) were positively associated with diagnostic delay while adequate TB knowledge (PR=0.12; 95% CI 0.05,0.32), basic education (PR=0.56; 95% CI 0.33,0.93), married patients (PR=0.5; 95% CI 0.29,0.85) and those satisfied with TB care (PR=0.05; 95% CI 0.02,0.13) were negatively associated with delays; exacerbated delays. **Conclusion:** TB diagnostic delays in Tarime DC, Tanzania was relatively low as compared to other studies. Contributing factors for diagnostic delays include low knowledge of TB, stigma, and distance to facilities. Reducing these delays requires targeted patient interventions and systemic health infrastructure improvements to enhance TB management and control.

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115. Karamaga, I.K. (2024). Lung function abnormalities and associated factors among children and adolescents aged 8-18 years with sickle cell anemia attending sickle cell clinic at Muhimbili National Hospital. Muhimbili University of Health and Allied Sciences.

ABSTRACT

Introduction: SCA is a chronic genetic disorder with multisystem complications that affects millions of children worldwide. One of the complications of SCA is lung function abnormalities. There have been conflicting findings on lung function among children with SCA, several demonstrating a restrictive pattern, although reports have shown that the obstructive form of the disease is the most prevalent. Despite the high prevalence of SCA globally, there is limited data on the magnitude of lung function abnormalities and associated factors among children and adolescents with SCA especially in SSA. Broad **objective:** To determine the proportion of lung function abnormalities and associated factors among children and adolescents aged 8-18 years with SCA attending sickle cell clinic at Muhimbili National Hospital. **Methodology:** This was a hospital-based cross-sectional study done at the SCA pediatric and adolescent outpatient clinic at MNH. An adapted structured questionnaire was used to collect data on the socio-demographic, environmental, and clinical characteristics of participants. Participants underwent physical examination and lung function assessment by spirometry. Abnormal lung function was defined as Forced Expiratory Volume in 1 second (FEV1) < 80% of the predicted value and < -1.64 of the Lower Limit of normal from the reference value. Data entry and analysis were done using Statistical Package for Social Sciences (SPSS), version 20. Continuous data were expressed as medians with respective interquartile ranges. The chi-square test was used to test for the association between categorical variables and the study outcomes. Univariable and multivariable logistic regression was used to assess for statistically significant associations with a set p-value of 0.05. **Results:** A total of 306 children and adolescents with SCA aged 8–18 years were recruited into the study; many of the participants were females 53.9%. The number of children and adolescents with abnormal lung function was 70 (22.9%), with most having an

obstructive pattern 28 (9.5%). The majority of the participants, 226 (82.6%), were on hydroxyurea treatment, and 22.1% were underweight. There were no factors independently associated with abnormal lung function in the multivariate regression analysis. **Conclusion:** Abnormal lung function is common among children and adolescents attending the sickle cell clinic at MNH. None of the studied factors was independently associated with abnormal lung function tests among children and adolescents with SCA. Recommendations: Regular spirometry screenings may be considered an integral component of comprehensive care for children and adolescents with sickle cell anemia (SCA). Additionally, future research should include additional variables like the duration and dosage of hydroxyurea, which may potentially influence abnormal lung function.

116. Kashaija, J. (2024). Comparative analysis of prostate specific antigen levels between aged 40 years and above males with and without human immunodeficiency virus at Muhimbili national hospital. Muhimbili University of Health and Allied Sciences.

ABSTRACT

Background: Prostate cancer (PCa) is a key concern for men over 40, especially in Sub-Saharan Africa, where HIV is prevalent. Although PCa isn't an HIV-defining malignancy, comparing PSA levels in HIV-positive and HIV-negative men is crucial for targeted prevention and early detection in this group. **Objective:** This study aimed at comparing analysis of prostate specific antigen levels between aged 40 years and above males with and without human immunodeficiency virus with no clinical evidence of Prostate Cancer at Muhimbili National Hospital. **Materials and Methods:** A hospital-based analytical cross-sectional study prospectively collected data from HIV-positive and HIV-negative men at Muhimbili National Hospital. PSA levels were measured, with those above 4.0 ng/mL referred for biopsy. Data analysis was conducted using SPSS version 27. **Results:** The study included 212 patients, equally divided between HIV-positive and HIV-negative groups (106 each). HIV-positive individuals had higher rates of smoking (81.2% vs.

18.8%), alcohol use (65.3% vs. 34.7%), and family history of prostate cancer (78.6% vs. 21.4%). They also exhibited lower PSA levels (20.5% vs. 79.5% with PSA ≥ 4.0ng/mL). No significant differences were observed in BMI, urinary symptoms, or education levels. Among HIV-positive patients, PSA levels were lower in those with higher CD4 counts and undetectable viral loads, though these differences were not statistically significant. **Conclusion:** The study reveals a low prevalence of elevated PSA levels among HIV-positive individuals compared to HIV-negative ones. No significant correlation was found between PSA levels and age, BMI, smoking, alcohol use, CD4 count, or viral load in HIV-positive individuals, suggesting that HIV progression or viral replication does not directly impact PSA levels. Therefore, PSA screening for prostate cancer in older men does not need modification for those with HIV infection.

117. Kashindye, S.A. (2024). Community health workers' experiences in implementing neonatal community-based referrals: a qualitative case study of Kisarawe District, Pwani Region. Muhimbili university of health and Allied Sciences.

ABSTRACT

Background: Early childhood mortality remains high in Tanzania. The 2022 TDHS-MIS data shows the under-5 mortality rate dropped from 147 deaths per 1,000 live births in 1999 to 43 deaths per 1,000 live births. For the five years preceding 2022, the under-5 mortality rate was 43 deaths per 1,000 live births, the infant mortality rate was 33 deaths per 1,000 live births, and the neonatal mortality rate was 24 deaths per 1,000 live births. Almost half of all newborn deaths occur in the first month of life. Community Health Workers (CHWs) have been instrumental in community-based referral services to reduce neonatal deaths, but their experiences and perceptions in implementing these services are poorly understood. **Objective:** To investigate the experiences and perceptions, among CHWs in the implementation of community-based newborn referral services in the Kisarawe District, Pwani Region. **Materials and methods:** This was a cross-sectional qualitative case study design that employed in-depth interviews to collect data. A purposive sampling method was used to select participants. Audio-recorded interviews

were transcribed verbatim. A thematic approach was used in data analysis. Data was analyzed with the help of NVIVO 14. **Results:** CHWs' experiences revealed challenges such as geographical barriers, cultural beliefs, and resource shortages, but they relied on training and facility support despite lacking formal referral tools. Their perceptions reflected a strong belief in their role in reducing neonatal mortality through early detection and referrals, though concerns about the absence of referral guidelines were raised. While CHWs were motivated, challenges like inadequate resources and the lack of formal tools significantly hindered their ability to provide effective neonatal care, highlighting the need for improved support systems. **Conclusion:** Addressing key challenges such as geographical barriers, cultural beliefs, resource shortages, inadequate referral tools, and the lack of formal referral guidelines through improved resources and clearer, structured guidelines could enhance the effectiveness of community-based referrals and reduce neonatal mortality in Kisarawe District.

118. Kaspar, N.M. (2024). Prevalence of uncontrolled hypertension and associated factors among elderly hypertensive patients attending outpatient clinics in Mbeya Regional Referral Hospital, Tanzania. Muhimbili University of health and allied sciences.

ABSTRACT

Background: In Tanzania, research studies have provided sufficient evidence of the increase in the hypertension burden, even within local regions away from big cities. Improvements in disease management have enabled affected people to live longer to old ages with diseases including hypertension. In the elderly, studies associate uncontrolled hypertension with male sex, living alone, alcohol consumption, and medication non-compliance. We were not sure of the status of elderly hypertensive populations in the regions; hence, this study is necessary so we can intervene to save lives. Thus, this study aimed to determine the prevalence of uncontrolled hypertension and associated factors among elderly hypertensive patients attending outpatient clinics in Mbeya Regional Referral Hospital, Tanzania. **Methods**: The hospital-based analytic cross-sectional study

were conducted at the chronic illness clinic at Mbeya Regional Referral Hospital. We included 389 hypertensive patients on antihypertensive medications, and consented patients participated in determining the prevalence of uncontrolled hypertension among the elderly from 31st May to 30th June 2024. Univariate and multivariate analysis were used to determine factors associated with uncontrolled hypertension and p-value ≤ 0.05 for final multivariable analysis was considered significant. **Results** The prevalence of uncontrolled hypertension was 241(62.0%) among elderly attending clinic. Farmers had a significantly lower risk of uncontrolled hypertension compared to the self-employed (AOR 0.5, 95% CI [0.31-0.89], p = 0.02). Obesity was significantly increased risk of uncontrolled hypertension (AOR 3.5, 95% CI [1.06-11.30], p = 0.04). Additionally, the absence of diabetes was associated with a lower risk of uncontrolled hypertension (AOR 0.3, 95% CI [0.12-0.75], p = 0.010). **Conclusion;** The prevalence of uncontrolled hypertension was high. Obesity and diabetes, smoking, salt intake, physical inactivity, and the use of herbal medications were associated with uncontrolled hypertension. These findings call for Continuous health education on lifestyle practices and hypertension-related complications in each follow-up visit through nurses, physicians, and pharmacists are very essential to avert the problem among elderly attending cardiac clinics in Tanzania hospitals.

119. Kassim, U.R. (2024). Burnout among nurses and reported consequences to staff well-being and patient care at Muhimbili National Hospital, Tanzania. Muhimbili University of Health and Allied Sciences.

ABSTRACT

Background: Globally, nurse burnout is a significant and concerning issue, affecting healthcare systems in various countries and regions. Studies conducted globally have highlighted the high prevalence of nurses' burnout. Main Objective: To assess the prevalence, contributing factors, and reported consequences of burnout among nurses in Muhimbili National Hospital, Tanzania. **Methods:** An analytical cross-sectional study was conducted. A structured organized questionnaire was used to assess burnout levels

among the participants. Ordinal logistic regression was employed to assess the relationship between the independent variables and burnout. The 95% confidence interval and a significance level of $p< 0.05$ were used to assess the association strength. Descriptive analysis was performed to determine the frequency of categorical variables. **Results:** Nurses at MNH were found to be at risk of burnout, which means they have moderate scores of EE (25.9%) and DP (29.2%), with 1% high scores in PA. The mean scores of MBI's three subscales (EE, DP, and PA) among the 364 participants were 12.8, 8.5, and 10.8 with standard deviations of 4.1, 2.4, and 1.7 respectively. Nurses with 6-10 years of experience had almost three times higher odds of emotional exhaustion (Odds Ratio (OR) = 4.12, 95% CI: 2.02 8.8, p = 0.001), nurses working rotating shifts had almost three times higher odds of emotional exhaustion (OR = 2.55, 95% CI: 1.19 – 5.50, p = 0.01) and Depersonalization (OR = 2.67, 95% CI: 1.06 – 6.67, p = 0.03). Nurses in the Inpatient Department (IPD) (n = 162) had significantly higher odds of Emotional Exhaustion (OR = 3.42, 95% CI: 1.71 – 6.9, p = 0.001). On the other hand, there was no significant association between burnout and sex, marital status, education level, or promotion. A considerable proportion of nurses (71.6%) reported experiencing physical health problems like backache and joint pain as a result of burnout. Conclusion: These findings are important for fast-tracking the strategies to improve services at MNH. **Recommendations:** To mitigate burnout among healthcare professionals at MNH, the MNH management should enhance support systems, promote work-life balance and develop policies that offer flexible scheduling, adequate time off, and resources to manage work-related stress.

120. Katwana, D. G. (2024). Pre-operative inflammatory biomarkers as the predictors of postoperative complications for patients with gastric cancer at Muhimbili national hospital. Muhimbili University of Health and Allied Sciences.

ABSTRACT

Background: Gastric cancer is one of the major global public health issues, identified as the fifth most common cancer overall with around 1,080,800 (5.6%) incidence and

770,000 (7.7%) mortality [1]. The incidence rate of stomach cancer in Africa is 2.9% (32,402), but the mortality rate is 3.9% (27,945). [2]. In Tanzania, there are around 40 000 new cases and 26 000 fatalities from cancer each year [3]. Gastrectomy with D2 lymph node dissection is the main treatment and best chance to achieve cure. Despite treatment improvements, 16.8% of patients worldwide develop postoperative complications. Pre-operative inflammatory markers have been known for their ability to predict outcomes in different parts of the world. Our study evaluated the predictive value of the preoperative full blood picture test for anticipating postoperative morbidity. **Aim:** The aim of this study is to assess pre-operative inflammatory markers in predicting postoperative complications for patients undergoing surgical resection of gastric cancer at Muhimbili National Hospital. **Methodology:** This was a retrospective cross-sectional study, reviewing patient records from January 2013 to June 2023, which included patients diagnosed with gastric cancer and receiving surgical treatment at MNH. The patients' demographics, preoperative inflammatory markers from the full blood picture test, neutrophil-lymphocyte, platelet-lymphocyte, and platelet-neutrophil ratios as independent variables were extracted from hospital perspective-maintained database, in-hospital morbidity and mortality were analysed using SPSS version 25. Logistic regression was used to evaluate the relationship between independent and dependent variables, and we evaluated the predictive power of the preoperative inflammatory markers using ROC. **Results:** In this study, 346 patient records were retrieved, of which 36.7% met the inclusion criteria. Of these, 58.2% were male, and the median age was 57 years. 36.2% of patients had a partial distal gastrectomy, and 26% had a gastrojejunostomy. The median follow-up period was 9 days. About 44.9% of patients developed in-hospital complications, and about 20.5% died before discharge. The most common complications were postoperative anemia and xi electrolyte imbalance. The WBC revealed high predictive value among other markers; EBL, resection type, and performance status showed a strong association with the development of postoperative complications. **Conclusion:** This study revealed that a high WBC count, high intraoperative estimated blood loss, total gastrectomy, and poor performance status were strongly associated with a high chance of developing a postoperative complication. WBC can be useful in

determining the patients that are likely to develop postoperative complications with sensitivity of 72% and specificity of 44%, even though the test showed to be poor by the low area under the curve (0.64).

121. Kavishe, C. (2024). Diagnostic Performance of Coronary Computed Tomography Angiography Compared to Invasive Coronary Angiography in Patients Suspected of Coronary Artery Disease in Tertiary Hospitals in Tanzania. Muhimbili University of Health and Allied Sciences.

ABSTRACT

Background: Coronary artery disease (CAD), which affects the arteries supplying the heart, is the leading cause of mortality and loss of disability-adjusted life years (DALYs) globally. A significant portion of this burden falls on low- and middle-income countries, accounting for approximately 7 million deaths and 129 million DALYs annually. CAD can be diagnosed using two major radiological techniques: 1) invasive coronary angiography (ICA) and 2) coronary computed tomography angiography (CCTA), with the former being the gold standard. However, ICA has potential major complications, as well as relatively high costs, radiation exposure, and patient discomfort. In contrast, CCTA is non-invasive, less costly, and poses minimal risk to patients. **Objective:** To determine radiological patterns and the diagnostic performance of coronary CT angiography among patients diagnosed with coronary artery disease attending at Muhimbili National Hospital and Jakaya Kikwete Cardiac Institute between 2021 to 2024.**Methods:**A cross-sectional study using secondary data was conducted among patients (n=170) suspected of having CAD who underwent both invasive coronary angiography and coronary CT at Muhimbili National Hospital (MNH) and Jakaya Kikwete Cardiac Institute (JKCI). Data was collected using a structured data collection tool in which demographic characteristics of patients and radiological findings of both ICA and CCTA using patient files, electronic records system including radiological images as data sources. Data analysis was conducted using SPSS version 24. Means and standard deviations were used to summarize continuous data while categorical data was

summarized using frequencies and percentages. The sensitivity and specificity of CCTA were calculated on a per-vessel and per-patient basis and analyzed using the area under the curve (AUC) from receiver operating characteristics curve. A statistical significance was determined by a P-value ≤ 0.05. **Results:** We studied 170 patients with mean age of 64.6 years and the majority (56.1%) of patients were male. Hypertension, diabetes, and obesity were recorded in 98.2%, 78.2% and 31.8% respectively. Radiological patterns from invasive coronary angiography (ICA) revealed that among CAD patients, single-vessel involvement was most common n=70(15.9%), with the left anterior descending artery (LAD) being the most frequently affected vessel n=70 (81.4%). CCTA showed a sensitivity of 62.9% and specificity of 89% with AUC of 0.76; and positive predictive value (PPV) of 80% and negative predictive value (NPV) of 77.4% in diagnosis of CAD. These results demonstrate CCTA's diagnostic strengths, particularly in specificity and PPV, though it exhibits lower sensitivity compared to ICA. **Conclusion:** Patients with CAD are predominantly male and elderly. Majority of the patients with CAD have single vessel involvement on both modalities. Hypertension, diabetes mellitus and obesity are important underlying risk factors. CCTA has a fairly good diagnostic performance when compared with ICA**.**

122. Kayira, G.G. (2024). Factors associated with the provision of pain management among adult trauma patients presenting to the emergency departments of three tertiary hospitals in Tanzania. Muhimbili University of Health and Allied Sciences.

ABSTRACT

Background: Pain is a common complaint among trauma patients, and the failure to control pain can affect the body's homeostatic response system more than the injury itself. However, there is limited data on the inconsistencies and inadequacies of pain management among trauma patients in Emergency Departments (EDs) in low- and middle-income countries. **Objective:** The objective of this study was to determine the factors associated with the provision of pain management to trauma patients presenting at

the Emergency Departments of three tertiary hospitals in Tanzania. **Methodology:** This was an observational, cross-sectional study of adult trauma patients who presented to the Emergency Departments of three tertiary hospitals in Tanzania (Muhimbili-Upanga, Muhimbili-Mloganzila, and Muhimbili Orthopedic Institute) from April 2024 to June 2024. All adult trauma patients meeting the inclusion criteria were enrolled, and an initial verbal pain scale was recorded by a research assistant, who also observed the pain management provided until the patient's disposition from the ED. Descriptive analyses were summarized using frequencies and medians with interquartile ranges. Chi-square tests were performed, and all variables with a p-value <0.05 were further analyzed using multivariate analysis to determine independent factors associated with the provision of pain management. A p-value of <0.05 at a 95% confidence interval was considered statistically significant. **Results:** Of the total 382 patients enrolled, 181 (47.3%) received pain medication. Multivariate regression analysis revealed significant factors associated with the provision of pain management, including younger age (<45 years), female gender, absence of intoxication, higher Body Mass Index (BMI), and being attended by a female physician, a specialist, or a more experienced physician (with over two years of practice). Conversely, factors associated with not receiving pain medication included older age, low BMI, male gender, lack of insurance, presenting with mild pain, and being treated by a male or less experienced physician. These factors were also correlated with patient dissatisfaction regarding pain management. **Conclusion and Recommendations:** The study revealed significant disparities in pain management practices, influenced by demographic, clinical, and systemic factors. Addressing these disparities through enhanced training, standardized pain assessment protocols, and healthcare policy reforms could lead to more equitable and effective pain management for trauma patients.

123. Kenneth, M.M. (2024). Knowledge, attitude, and factors associated with the practice of iron and folic acid supplementation among pregnant women attending antenatal care clinics in Morogoro Municipal Council. Muhimbili University of health and allied sciences.

ABSTRACT

Background: Over 50% of cases of anemia worldwide are caused by iron deficiency, affecting 38.2% pregnant women aged 15 and 49 years; in contrast, the prevalence of anemia in pregnant women in Africa is 46.3%. It is strongly advised that every pregnant mother takes IFA supplements to meet her needs throughout pregnancy to prevent anemia and its potential risks including preterm birth, perinatal mortality, low birth weight, and intellectual disability in children. A few risk factors for developing anemia during pregnancy include grand multiparity, too early pregnancies, short interpregnancy interval, low socioeconomic status, illiteracy, and late ANC initiation which can be reduced if mothers' attitudes and knowledge of methods of preventing anemia is enhanced. **Objective:** This study investigated about knowledge, attitude, and factors associated with the practices of IFA supplementation among pregnant women attending ANC clinic follow-ups. **Methodology:** A quantitative analytical cross-sectional study, involved 358 pregnant women in their second and third trimesters attending antenatal clinics at three health centers in Morogoro municipal council. A structured self-administered Swahili version questionnaire (translated by BAKITA) was used to collect data from the participants. The data were analysed using IBM SPSS version 23. Descriptive statistics was carried out to determine the social-demographic and obstetrics characteristics of participants; and the Chi-square and ordinal logistic regression analysis for the factors associated with the practice of IFA supplementation during pregnancy. **Results:** Out of 358 studied, the majority showed positive attitudes (94.4%), good practice (52.8%), but poor knowledge (56.7%) regarding IFA supplementation during pregnancy. The odds of having good practice were observed with primary education level aOR = 2.40, 95% CI: 1.11–5.27, p = 0.027; formal and informal employment aOR = 2.72, 95% CI: 1.14–6.77, p = 0.028; gravidity of >2 aOR = 2.28, 95% CI: 1.19–4.41, p = 0.014; and positive attitude towards IFA supplementation aOR = 6.64, 95% CI: 2.70–17.01, p = 0.001. There was no relation between the level of knowledge and good practice (P-value = 0.584). **Conclusion:** Pregnant women were willing to know much about IFA supplementation and were compliant to the proper recommended IFA practices. Observed good practice is based on them good compliance rather than the level of knowledge. However, good knowledge about IFA supplementation and its importance are crucial to raise the level of

good practices. We recommend sustainable and consistent health educations sessions at ANC clinics that accommodates all aspects of practice, introduction of a follow up mechanism for all pregnant women taking IFA supplements through direct intake observation by household caretakers under guidance of community healthcare providers, and further same titled studies be conducted with a sample size not less than a thousand participants (more powered studies).

124. Kessy, J.C. (2024). Prevalence and factors associated with chronic suppurative otitis media complications among adult patients at Muhimbili National Hospital. Muhimbili University of Health and Allied Sciences.

ABSTRACT

Background: Chronic suppurative otitis media (CSOM) is still a problem in developing countries affecting both pediatric and adult patients. However rare the disease is, complications both extra cranial and intracranial may arise. The factors that seem to fuel the progression of CSOM to its complications also appear to have an impact on patients' quality of life, hence existence of the risk factors linked to CSOM complications can be addressed early to prevent the consequences of the disease. **Aim:** To determine the prevalence of chronic suppurative otitis media and the factors associated with its complications among adult patients at Muhimbili National Hospital. **Methodology:** A hospital based cross-sectional study was employed to collect data from patients with CSOM. Data was collected through the use of a data collecting tool, which included; demographic information about the patients, clinical characteristics and information about CSOM complications that were identified during imaging investigations in addition to physical examination results. The analysis of the data was done with Statistical Package for Social Sciences (SPSS) version 23. Whereas categorical variables were summarized by percentage, continuous variables were summarized by median and interquartile range. To investigate the relationship between the factors under investigation and complicated CSOM, logistic regression was used. The statistical significance was established at $p<0.05$. **Results:** A total of 52 patients with CSOM were recruited, male to female ratio was 1:1, median (IR) age was 39 (22) years. The prevalence of complicated

CSOM was found to be 51.9%. Extracranial complications were found in all patients with complicated CSOM and 19% of the patients had also intracranial complications. Higher proportion of complicated CSOM was found in male patients (61.5%), those with atticoantral type of CSOM (100%) and those who used local remedies to the diseased ear (72.7%). Binary logistic regression analysis showed that use of local remedies to the diseased ear was an independent factor for a complicated CSOM. **Conclusion:** The prevalence of complicated CSOM in our setting was 51.9% and most patients had extracranial complications. The use of local remedies was found to be an independent factor contributing to the development of complications from CSOM and thus necessitating advocacy for proper healthcare seeking behavior and education in our society.

125. Khalef, W. (2024). Outcomes and Associated Factors of Retinopathy of Prematurity Treatment at Muhimbili National Hospital Dar Es Salaam, Tanzania. Muhimbili University of Health and Allied Sciences.

ABSTRACT

Background: Retinopathy of prematurity (ROP) is a potentially blinding disease caused by abnormal growth of retinal blood vessels in premature infants, leading to scarring, retinal detachment, and vision loss. It accounts for about 10% of childhood blindness worldwide. Despite the advancements in medical interventions, treatment outcomes for ROP remain highly variable with some infants responding well to treatment while others continue to experience disease progression, and complications such as vitreous hemorrhage, or tractional retinal detachment, ultimately leading to blindness. Additionally, visual development may still be impaired despite treatment. The inconsistency in the treatment results and the lack of conclusive data on contributing factors underscore the need for this investigation, which seeks to provide evidence that may guide clinical decision-making and enhance care for premature infants at risk of blindness. Aim: To assess outcomes and associated factors of ROP treatment at Muhimbili National Hospital. **Methodology:** A hospital-based analytical cross-sectional

study that consecutively recruited 40 children who had ROP and had received treatment from 2019 to 2022 was conducted. The study was conducted for a period of six months, from August 2022 to January 2023. Participants were assessed for structural findings, visual status, and refractive errors. Data were analyzed using SPSS version 24. Frequencies and percentages were used to show the structural, visual, and refraction statuses. Fisher's Exact Test was used to show the relationship between the type of treatment with presenting visual acuity and refraction status. Multiple linear regression analysis was used to show an association between factors and presenting visual acuity. Univariate and multivariate logistic regression was used to show an association between factors and refractive error. A p-value less than 0.05 is considered to be statistically significant**. Results:** Seventy-nine eyes of 40 patients were analyzed. Most of the study participants were females (65.0%), and the mean age was 11.50 (±5.60SD) months. The majority of eyes (71.3%) had stage 3 ROP. ROP regression was seen in all eyes. Normal vision was observed in 79.7% of eyes. Most (65.3%) of eyes had refractive error and of them, the majority had myopia. Birth vi weight, gestational age (GA), PMA at treatment, and disease severity showed no association with structural outcome and visual and refractive status. **Conclusion:** All eyes showed ROP regression. Normal vision was observed in the majority of eyes. The majority of eyes had refractive error and myopia was the most common. PMA at treatment, birth weight, and disease stage showed no association with treatment outcomes. Recommendations: Efforts to screen, detect, and treat children with ROP at MNH must continue to maintain a good outcome. Children who have undergone ROP treatment should be closely followed up to early identify, and correct refractive error on time, and improve their quality of life. To encourage scaling up of ROP screening and treatment throughout the country.

126. Khamis, H.A. (2024). Prevalence of Soil-transmitted Helminthic infections and factors associated with persistent transmission among Pre-school aged children in west B district, Unguja Zanzibar. Muhimbili University of Health and Allied Sciences.

ABSTRACT

Background: The risk of contracting Soil-transmitted Helminthic infections (STHs) is recognized to be shared by pre-school aged children (PSAC) and school aged children (SAC) due to sanitation and hygiene practices. The national efforts in Zanzibar for the control of STHs infections have predominantly focused on SAC, excluding PSAC. Even though preventive chemotherapy (PC) using mebendazole has been used in reproductive and child health (RCH) clinics during deworming and vitamin A supplementation campaigns since 2004; the results have not been optimal because attendance starts to decline after the age of 12 months. This means that some PSAC patients do not receive PC at a time when they are most vulnerable for STHs infections. This study examined the prevalence of STHs infections, the association between water, sanitation, and hygiene (WASH)-related factors and STHs infections, as well as the uptake of PC among 348 PSAC from 1 to 5 years of age in West B, Unguja – Zanzibar. **Objective:** This study aimed to determine the current prevalence of STHs and risk factors associated with continued transmission among PSAC in West B district, Unguja – Zanzibar. **Methodology:** A household-based cross-sectional study was carried out among PSAC in West B district. Multistage random sampling was used to recruit 348 PSAC. Interviews using structured questionnaires were conducted with mothers and caregivers of PSAC. The information sought was related to socio-demographic characteristics, level of knowledge of the disease, household water availability, personal hygiene and sanitation, as well as uptake of PC and associated factors. The prevalence of STHs and estimation of its intensity was assessed by analyzing stool samples through formalin-ether concentration technique (FECT) and the Kato-Katz technique (KKT), for STHs egg detection. Egg counts were represented as egg per gram (EPG). Data were analyzed by the statistical computer package (SPSS version 22) and summarized by descriptive and analytical statistics; proportions were compared by the Fisher's Exact Test**.** In addition, logistic regression analyses were performed to determine association between dependent and independent variables. The 95% Confidence interval and significance level of 0.05 were used. **Results:** Out of 348 stool samples, 5 were infected with at least one type of STHs, giving an overall prevalence of 1.4%, and overall light intensity. The prevalence of STHs was significantly associated with occupation of mothers and caretakers (p=

0.007), place of residency (p=0.02), knowledge of mothers and caretakers on STHs infections (p=0.000), cleansing agent at hand washing place (p=0.013), hand washing practices with water and soap after defecation (p=0.026). The overall attendance at RCH clinic was high (94.5%) and those who attended RCH clinics received and benefitted from periodic uptake of preventive chemotherapy (PC). Main water source for domestic use was improved piped water, but very few (12.1%) treated water before drinking. Majority of households (82.5%) had hand washing facility, about half (48.3%) had water and soap at the hand washing place. High number of respondents (94.3%) had their fingernails trimmed at the time of survey together with their correspondent children. Latrine coverage was 100%, and majority (95.9%) use flush toilets, though disposal of child fecal matter was unhygienic in about 35.9%. Logistic regression analysis identified a family size as a significant factor contributing to continued STHs transmission, family size of more than five household members have an AOR of 0.117 (95% CI= 0.016-0.854, p=0.034). **Conclusion and recommendations:** PSAC are a potential source of continued transmission of STHs; mothers and caretakers' occupation, poor water treatment habit, unhygienic disposal of feces of child as well as poor hand washing habit among households bring further risks of STHs transmission in the general population. Health education should be given to mothers and caretakers on the importance of treating water for domestic use, personal hygiene and sanitation, especially the proper and hygienic way of disposing fecal matter of the child.

127. Khamisi, A. (2024). Implementation of the teacher's guide for life skills education based on reproductive health, HIV AND AIDS, and gender in secondary schools in Dodoma city council, Tanzania. Muhimbili University of Health and Allied Sciences.

ABSTRACT

Introduction: comprehensive sexuality education (cse) is globally acknowledged as a pivotal measure for mitigating HIV infection transmission, other sexually transmitted infections (stis), and teenage pregnancies among adolescents and youth. In Tanzania, cse is embedded within the educational curriculum, with government-issued guidelines to

assist teachers in delivering life skills education comprehensively. Despite these efforts, the actual implementation of the guidelines remains underexplored. **Objective:** this study explored the implementation of a teacher's guide for teaching life skills education by secondary school teachers in Dodoma City Council. **Material and Methods:** This study employed a qualitative case study to explore and evaluate the guide's implementation. Twenty-four respondents were interviewed, of which twenty were secondary school teachers, and four were education officers in Dodoma City Council. Twenty IDI and four KII were conducted using a semi-structured interview guide. Data was audio recorded, transcribed verbatim, translated, and stored in Google Drive. With the help of Dedoose software, thematic analysis was used to analyze the data **Results:** The study revealed that secondary school teachers in Dodoma City Council use the life skills guidelines by integrating them into classroom lessons and during extracurricular activities, such as club time and school gatherings. While teachers generally adhere to the teaching methods outlined in the guide, they occasionally modify them to fit their specific contexts. They also reported that they sometimes encounter challenges following the steps stipulated in the guide. Additionally, several factors influencing implementation were identified, including administrative support, availability of resources, compatibility of the guide with existing teaching practices, and the presence of incentives and reward mechanisms. **Conclusion:** The teacher's guide is being implemented in Dodoma City, although it is inconsistent among schools. Few trained teachers, financial constraints, and a lack of incentives and resources hinder effective implementation. Improved support and structured integration strategies are essential to maximize the effectiveness of implementation. **Recommendations:** The Dodoma City Council, in collaboration with other stakeholders, should enhance teacher training, resource allocation, and supervision to improve adherence and effective implementation.

128. Kibira, J. (2024). Outcome evaluation of outreach screening program compared to facility-based screening on early detection, treatment and survival rate of cervical cancer patients at Ocean Road cancer institute in Tanzania. Muhimbili university of health and Allied Sciences.

ABSTRACT

Background: Cancer screening can improve individual outcome by detecting cancer at early stages. Unfortunately access to screening services is limited due to lack of awareness and knowledge, availability of limited screening facilities and health providers and geographical barriers. **Objective:** To determine early detection, early treatment and survival rate of cervical cancer patients at Ocean Road Cancer Institute comparing of outreach screening program to facility-based screening. **Methods:** The study employed analytical retrospective cohort study design using secondary data on cervical cancer screening programs and treatment records extracted from ORCI database. The study population included 6,165 cervical cancer patients who were screened by ORCI, 2,803 from outreach program and 3,362 from facility and subsequently showed up for treatment within the period of one year from January 2020 to December 2020 and then followed for three years, from January 2020 to December 2023. Regression statistical used to examine the association between soci-demographic factors and utilization of cervical cancer screening. **Results:** The study found that facility-based screening detected slightly higher cervical cancers in early stage (62.5%) than outreach programs (62.1%), and women screened at facilities were much more likely to seek treatment (90.4%). The study also indicated that Women aged 30 45(AOR=1.71, 95% CI=1.51, 1.94) and 46 60 (AOR=1.32, 95% CI=1.07, 1.63) had higher odds of utilizing cervical cancer screening services at facility level than those with below 30 years and also women with primary education (AOR=2.44, 95% CI=2.08, 2.86), secondary education (AOR=8.15, 95% CI=6.76, 9.82) and highe r education (AOR=17.10, 95% CI= 4.99, 58.54) had higher odds of utilizing cervical cancer screening services at facility level compared to those with informal education. A concerning finding was the decline in survival rates, particularly for women detected through outreach, where among 16 women that were enrolled in 2020, 81.25% followed by 69.23% and finally 66.66% in 2021, 2022 and 2023 consecutively, this highlighting the need for further research into these barriers. **Conclusion and recommendations:** According to the study findings, outreach screening programs can be useful in identifying cases of cervical cancer, particularly those that are

detected early. On the other hand, people screened at the facility were far more likely to seek treatment. Study suggests ensure accurate and complete data collection on cervical cancer cases, including stage at diagnosis, treatment received, and survival outcomes, while collaborate with local NGOs, community leaders, and faith-based organizations to reach underserved populations for outreach programs and education initiatives.

129. Kihwele, J.M. (2024). Prevalence, Clinicopathologic Findings and Associated Factors of Advanced Colorectal Neoplasia Among Patients Undergoing Colonoscopy at Muhimbili National Hospital. Muhimbili University of Health and Allied Sciences.

ABSTRACT

Colorectal Cancer (CRC) is the 3rd most common cancer worldwide. It is the second most common cancer in women and the third most common cancer in men. In 2020 there were more than 1.9 million new cases of CRC worldwide. As the third most common malignancy and the second leading cause of cancer death. It is Africa's fourth most common cause of death secondary to a malignancy, although slight regional variations exist. CRC ranks third amongst all types of cancers in North Africa, while in East, Central, South, and West Africa it is ranked fourth. Factors such as alcohol intake, high red meat diet and a strong family history have been linked to increase occurrence of advanced colorectal neoplasia. **The Aim:** To determine the prevalence, clinical, colonoscopic, histopathological findings, and associated factors among patients with advanced colorectal neoplasia at Muhimbili National Hospital (MNH) identified between November, 2023 – March 2024. **Methodology:** This was a hospital-based cross-sectional study. A sample of 200 participants fulfilling the eligibility criteria were included in the study. Colonoscopy and pathological confirmation of advanced colorectal neoplasia were the measures of interest. A structured questionnaire was used to obtain patients' socio-demographic, clinical, and laboratory data. All study patients had a colonoscopy done at MNH – Upanga or Mloganzila site. Data processing was through SPSS v 23. Variables were summarized as means and proportions. Multivariate analyses of variance were used

to evaluate the relationships between ACRN and associated factors. Ethical approval was sought from the Muhimbili University of Health and Allied Sciences (MUHAS) Research and Ethics Committee. Permission to conduct the study was obtained from the MNH administration. **Results:** A total of 200 participants were studied with an age of 56 years, with an IQR 42-66. Over half of the participants were male (59%) and the majority were married/cohabiting ((74%). A slightly higher proportion had completed primary education (51%), followed by completed secondary education (25.5%). A higher proportion of participants were unemployed (34.2%). Most participants did not have any comorbidities (60%). Of the 40% with comorbidities, the most common were hypertension (30%), heart disease (19%) and Diabetes Mellitus (10%). Most participants presented with abdominal pain (60.2%), blood in stool (57.1%) and constipation (51.1%). Majority of participants presented a lesion (81%), with most presenting with one lesion (64. %), while some had up to 10 or more lesions (2%). Most participants presented a lesion in the rectum (32.47%), followed by the sigmoid and ascending colon (8.23%). Most participants presented a fungating mass (14.7%), followed by polypoid/polyp (10.17%) and internal hemorrhoids (6.9%). Among all participants, 25.5% were found to have advanced colorectal neoplasia compared to the remaining 74.5%. Assessment of factors associated with the presence of an ACRN, grouping of the sample by age showed that participants 45 years and older had 1.2 more odds of having an ACRN but it was not significant. Gender did not have an effect on odds of having an ACRN. A positive family history increased the odds of having an ACRN. Having a first degree relative with CRC increased the odds of having an ACRN by 4.6 (4.56,4.8), p-value = 0.031. **Conclusion:** The prevalence of ACRN among patients undergoing colonoscopy at MNH was 25.5%. About 81% of patients undergoing colonoscopy have a visible lesion. There are various relationships between age, sex, social/behavioral history and diet with the presence of an ACRN at colonoscopy but the only statistically significant relationship was the increased odds of an ACRN at colonoscopy if a participant has a first-degree relative with a history of CRC.

130. Kiluwasha, W.S. (2024). Relevance of sustainable rural water supply and sanitation program on improving sanitation facilities at the household level in Itilima District Simiyu Region. Muhimbili university of health and Allied Sciences.

ABSTRACT

Introduction: Unimproved sanitation is a significant global concern, leading to adverse health outcomes and increased healthcare costs. Despite efforts to address this issue, many households lack access to improved sanitation facilities. In response, Tanzania has implemented several programs to improve sanitation, including the Sustainable Rural Water Supply and Sanitation Program (SRWSSP). **Objective:** To assess the relevance of the SRWSSP in improving sanitation facilities in Itilima District. **Methods:** A cross-sectional study with a quantitative approach was employed. Data were collected from household heads using questionnaires and observations. Descriptive statistics analyzed socio-demographic characteristics, latrine coverage, toilet utilization, and attitudes toward sanitation. Multivariable logistic regression identified factors associated with acceptance, with significance set at a P-value of less than 0.05. **Results:** In Itilima District, 23% of households had improved sanitation facilities, with 54.3% utilization. Regarding acceptance, 55.4% of respondents noted efforts to improve sanitation, while 43.8% felt comfortable with the facilities. Significant factors associated with acceptance included age (40-59 years: AoR = 0.29, P = .014; 60+ years: AoR = 0.04, P = .000), income (AoR = 0.17, P = .043), education (AoR = 3.17, P = .022), and family size (AoR = 3.93, P = .047). **Conclusion:** Improved sanitation facilities show partial relevance, with moderate relevance for utilization and acceptance. Despite efforts, many households continue to use unimproved facilities due to inadequate infrastructure and socio-economic disparities. Recommendations include promoting durable, culturally appropriate sanitation facilities, implementing health education programs to highlight the benefits of improved sanitation, and providing targeted subsidies to enhance improved sanitation among households.

131. Kimambo, J. (2024). Assessment of antibiotic use in dairy farming and tetracycline and sulphonamide residues in fresh milk in coast region in eastern Tanzania. Muhimbili University of Health and Allied Sciences.

ABSTRACT

Background: The intensification in livestock production due to the increased demand for animal products has led to a significant rise in the use of antimicrobial agents, which threatens public health. Tetracycline and sulphonamides antibiotics are commonly used. The widespread and irrational usage of these antibiotics during livestock keeping is a significant factor to antimicrobial resistance (AMR). Little is known on farming practices and level of antibiotic residues in Tanzania. **Methodology:** A cross-sectional study was conducted with 95 registered small-scale cattle farmers in Kisarawe district, Tanzania between January to March 2024 to assess their knowledge, attitudes, and practices (KAP) regarding the use of tetracyclines and sulphonamides in cattle farming. Data was collected through semi-structured questionnaires and milk samples were tested for antibiotic residues using Enzyme-Linked Immunosorbent Assay (ELISA). The KAP scores were assessed using modified Bloom's cut-off points, categorizing scores of 75% or above as indicative of adequate knowledge, positive attitude, and good practices, while scores below this threshold were deemed to reflect inadequate knowledge, negative attitude, and poor practices. Mann-Whitney statistical test and software like Stata and GraphPad Prism, explored the relationships between KAP scores and residue concentrations. **Results:** Of the 95 dairy farmers enrolled, (62.1%) owned ≤ 5 cattle, 81.05% had inadequate knowledge of antibiotics, 34.74%% had negative attitudes toward antibiotics, 57.89% had poor practices and 63.16% did not observe a withdrawal period, 75.79% used antibiotics from unauthorized sources, 57.9% (55/95) had no training, only 38.9% (37/95) knew about antibiotic prophylaxis, and 24/95 (25.2%) were aware of AMR. 94.05% of milk samples contained sulphonamide residues, and 8.14% had tetracycline residues. 2.4% of milk samples had above the maximum residual limit (MRL) for tetracycline and 1.2% for sulphonamides. There was an association between farming practices and antibiotic residue for both tetracycline (*p-value* = 0.043) and

sulphonamide (*p-value* = 0.023). **Conclusions:** Dairy farmers in Kisarawe District have inadequate knowledge and attitudes, and exhibit poor practices on antibiotic use in cattle farming, necessitating awareness campaigns and training programs. The presence of antibiotic residues in milk calls for regular monitoring, enhanced extension services, and investigations into milk production practices to guide antimicrobial stewardship programs.

132. Kimario, F.E. (2024). Magnitude and risk factors associated with overweight and obesity among secondary school adolescents in Kinondoni Municipal, Dar es Salaam. Muhimbili University of Health and Allied Sciences.

ABSTRACT

Background: Overweight and obesity is a global public health issue that is becoming more prevalent in the younger generation. Globally prevalence of overweight and obesity among children and adolescents aged 5-19 has increased from 4% in 1975 to over 18% in 2016. **Broad objective:** To determine the magnitude and risk factors associated with overweight and obesity among secondary school adolescents in Kinondoni Municipal. **Methodology:** A cross-sectional study was conducted among 4 secondary schools in Kinondoni Municipal from June to July 2024. The study involved a total of 400 secondary school adolescents in Kinondoni Municipal which was selected through a two-stage stratified sampling method. A structured questionnaire was used to collect information on socioeconomic factors, dietary habits, and physical activity factors. Also, anthropometric measurements were taken by using WHO standard procedures and BMI was calculated. Descriptive analysis was used to summarize data and regression models were estimated to determine factors associated with overweight and obesity among secondary school adolescents in Kinondoni Municipal. **Results:** The overall prevalence of overweight and obesity among secondary school adolescents in Kinondoni Municipal was 18.3% and 3.2% respectively. The majority (n=229; 57.3%) of the participants were female, while only (n=171; 42.8%) were male aged (15-19) years. Factors such as school type (p=<0.001), amount of money provided to the adolescents(p=0.043), type of sport

engaged (p=0.027), frequency of watching television (p=0.047), Type of food purchased away from home(p=0.012) and consumption of soft drink (p= 0.021) were significantly associated with overweight/obesity among secondary school adolescents in Kinondoni Municipal. **Conclusions:** The magnitude of overweight/obesity among secondary school adolescents is high which leads to public health concerns. Interventions aimed at promoting healthier food choices, reducing the availability of unhealthy food options outside the home environment, and educating adolescents about balanced nutrition can help to reduce the prevalence of overweight/obesity among adolescents.

133. Kimaro, A. B. (2024). Antibiotic use, sensitivity and resistance patterns among patients admitted to intensive care units in tertiary care hospitals in Dar es salaam, Tanzania. Muhimbili University of Health and Allied Sciences.

ABSTRACT

Background: Antimicrobial resistance complicates infection treatment by reducing the effectiveness of medications, posing a global healthcare challenge since the discovery of antibiotics in the 1940s. In critical care settings, antibiotic resistance puts patient safety at risk and undermines the efficacy of medical therapies, but currently little is documented in Tanzania about Antimicrobial resistance in critical care settings**. Aim of the study:** To assess antibiotic use, sensitivity, and resistance patterns among patients admitted to intensive care units in tertiary care hospitals in Dar Es Salaam, Tanzania. **Methodology:** This was a descriptive cross-sectional study design with a quantitative approach conducted from May to June 2024 at the Intensive Care Units of Muhimbili National Hospital, Jakaya Kikwete Cardiac Institute, and Muhimbili Orthopedic Institute with total of 88 bed capacity. Questionnaires were used to obtain information on demographic characteristics, length of stay, and antibiotic utilization. **Results:** A total of 159 patients were recruited in the study. Data was complete on 138 patients, and these are included in the analysis. Almost two third were males and admitted primarily to Muhimbili Orthopedic Institute (44.2%), almost three quarter were bound to the Intensive Care Unit within 5 days, often due to Severe Traumatic Brain Injury (13%) or Pneumonia (13%).

Prior to Intensive Care Unit admission, 72.5% received antibiotics like Ceftriaxone (32.32%) and Ceftriaxone Sulbactam (25.25%), with a delay of 2-3 days post-admission in 41.37% of cases, primarily empirically (60.1%). In the Intensive Care Unit, Ceftriaxone and Metronidazole were most prescribed (46.4% each), followed by Ceftriaxone Sulbactam (37%) and Tazact (23.2%). Treatment durations varied (Ceftriaxone: 4±2 days; Ciprofloxacin and Meropenem: 8±4 days). Culture and sensitivity testing identified Gram-positive Staphylococcus aureus (50%) and others, sensitive primarily to Chloramphenicol (23.81%) and Amikacin (19.05%). Resistance was noted in 18.03% (Ciprofloxacin), 14.47% (Cefepime), and others, highlighting ongoing challenges in Intensive Care Unit antibiotic management. vi Notably, 54.3% of patients were successfully discharged from the ICU, while 45.7% did not survive, indicating a high mortality rate. **Conclusion:** This study revealed important findings on antibiotic use, microbial isolates, sensitivity, resistance patterns, and patient outcomes in ICUs at tertiary care hospitals in Dar es Salaam. Common antibiotics included third-generation cephalosporins and carbapenems like Ceftriaxone and Ciprofloxacin. Staphylococcus aureus and E. coli were the most frequently identified pathogens. Sensitivity patterns showed that carbapenems and aminoglycosides were the most effective, while high resistance was observed against penicillin and cephalosporins. Additionally, patient outcomes indicated a notable mortality rate.

134. Kimaro, S.A. (2024). Women's Satisfaction with shared decision-making-process of caesarean sections and associated factors among women attending St Joseph Hospital, Kilimanjaro, *Tanzania.* Muhimbili University of Health and Allied Sciences.

ABSTRACT

Background: Caesarean section (CS) rates are rising globally, including in Tanzania, where shared decision-making (SDM) is crucial for patient-centered care. However, the satisfaction of women with the SDM process during CS and the influencing factors are underexplored in Tanzania. St. Joseph Hospital in Kilimanjaro, serving a diverse

population, provides an ideal setting to investigate these issues. Factors such as education, socio-economic status, communication quality, cultural beliefs, and family involvement significantly impact satisfaction. This study aims to evaluate post-CS delivery women's satisfaction with the SDM process at St. Joseph Hospital and identify associated factors. This study aimed to determine the post CS delivery women's satisfaction with SDM process and associated factors among women attending St. Joseph Hospital, Kilimanjaro, Tanzania. **Methodology:** A cross-sectional study was conducted at St. Joseph Hospital targeting women aged 18 and above who had undergone a caesarean section. A total of 319 Participants were selected using simple random sampling, and data were collected through Interviewer administered Questionnaire. The primary outcome measured was patient satisfaction with shared decision-making during caesarean delivery. Data analysis was performed using SPSS version 25. A multivariable logistic regression analysis was performed to determine significant predictors of satisfaction at a p-value <0.05. **Results:** The mean participant age was 30±16.3 years. The majority resided in town 191(59.9%), were married 250(78.4%), had secondary or higher education 220(69.0%), and were employed 258(80.9%). Most participants were multiparous 230(72.1%), initiated ANC in the 2nd and 3rd trimester 264(82.8%), and underwent emergency CS 185(58.0%). The informed consent was most commonly provided by general practitioners (GPs) 103(54.2%). The proportion of participants who were satisfied with shared decision regarding CS was 222(69.6%). Patients with a history of cesarean section (CS) were less satisfied (61.6%) compared to those without (78.1%), and elective CS patients reported higher satisfaction (77.4%) than emergency CS patients (64.0%). Satisfaction was highest among patients who received consent from specialists (94.7%), and those with adequate knowledge (73.0%) and good provider-to-patient communication multivariable logistic regression, individuals with no history of cesarean section (CS) had an adjusted odd ratio (aOR) of 2.797 (95% CI [1.511, 5.178], p = 0.001). Those who underwent elective CS had an aOR of 2.367 (95% CI [1.293, 4.332], p = 0.005). Informed consent provided by a specialist was associated with a notably higher aOR of 9.468 (95% CI [2.617, 34.258], p = 0.001). Adequate knowledge among patients was linked to an aOR of 4.135 (95% CI [1.512, 11.312], p = 0.006), while good

communication showed an aOR of 4.461 (95% CI [1.474, 13.503], p = 0.008). **Conclusion:** This study highlights the importance of patient involvement in the decision-making process for CS, emphasizing that it leads to higher satisfaction, particularly for those new to CS or undergoing elective procedures. The research suggests that active patient participation and thorough information provision may help address the rising CS rates by empowering patients and improving their satisfaction with the healthcare services provided.

135. Kimesera, R. (2024). Bacterial contaminants and antibacterial susceptibility in barbecue beef sold by street vendors in Dar es salaam, Tanzania. Muhimbili University of Health and Allied sciences.

ABSTRACT

Background: Meat and meat products are among the highly consumed products in Tanzania. Despite being a good source of protein, iron, and other nutrients, they are highly susceptible to microbial contamination. Unhygienic practices such as poor handling of food products during receiving, preparation, and storage have increased the risk of microbial contamination. With the rise in street food consumption, concern about regulating meat safety is important to avoid the outbreak of foodborne diseases. **Objective**: To assess the bacterial contamination levels and antimicrobial susceptibility of isolated bacteria from barbecue beef sold by street food vendors in Dar es Salaam. **Methodology:** This was a cross-sectional analytical study that involved an assessment of barbecued beef and swabbing of preparation area among 86 street food vendors, conveniently sampled at the point of serving. The collected barbecue portions of meat and swabs from the beef preparation area were placed in sterile polythene plastic bags and Cary Blair medium in a cooler box and transported to the MUHAS Teaching Microbiology laboratory for analysis. Bacterial isolation was performed in the laboratory using standard microbiological techniques, followed by antibiotic susceptibility testing (AST). Stata software was used for statistical analysis. **Results**: Bacterial contamination was higher in the beef preparation area than in the barbecued beef samples. Escherichia

coli (25.5%) was most common in beef samples, while Staphylococcus aureus (14%) and coagulase-negative staphylococci (CONS) (23.3%) were more prevalent in the preparation area. Antibiotic susceptibility testing showed that seven CONS strains were sensitive to tetracycline in barbecued beef. Four bacterial species were sensitive to ciprofloxacin and gentamycin. In the preparation area, most CONS and E. coli were sensitive to antibiotics, though E. coli was resistant to gentamycin. Additionally, 75% of S. aureus were antibiotic-sensitive but less so to tetracycline. Street food vendors who did not maintain cleanliness or prevent cross-contamination had significantly higher contamination levels (51.3% and 51.4%, respectively). Conclusion: A significant bacterial contamination in both barbecued beef and the preparation areas, with E. coli and S. aureus being the most prevalent bacteria was observed. Antibiotic susceptibility testing showed varied resistance patterns, with some bacteria resistant to gentamycin and tetracycline. Poor hygiene practices, particularly in food preparation and cross-contamination prevention, were strongly associated with higher contamination levels. These findings highlight the need for stricter hygiene measures and regulation to ensure the safety of street-vended meat products in Dar es Salaam.

136. Kindole, I.A. (2024). Performance of pediatric early warning score and physician gestalt in predicting adverse events among pediatric patients presenting to the emergency medicine department of a tertiary hospital in Tanzania. Muhimbili University of Health and Allied Sciences.

ABSTRACT

Background: Critically ill children are highly susceptible to adverse events if prompt interventions are not administered due to the variability of their vital signs. To anticipate such events, healthcare providers use a Pediatric Early Warning Score. In resource-limited countries, it is uncertain how accurately clinician gestalt predicts adverse events. **Aim:** To evaluate the performance of the Pediatric Early Warning Score and clinician gestalt in predicting adverse events in pediatric patients who are triaged as emergency and priority. **Methodology:** This prospective cohort study involved children aged 28

days to 14 years who presented to the Emergency Department at Muhimbili National Hospital from May to June 2024. Physicians estimated the likelihood of adverse events (e.g., intubation, ventilation, ICU admission, or death) using clinical gestalt, while the Pediatric Early Warning Score (PEWS) was recorded for all patients. Patients were monitored until their outcome was determined. A cut-off probability of ≥70% for clinician gestalt, based on Youden's index, and a PEWS score of ≥3 were used. Sensitivity, specificity, predictive values, and area under the curve (AUC) were calculated to assess the accuracy of both methods in predicting adverse events. **Results:** A total of 250 children were enrolled. Physician gestalt had an area under the curve of 0.964 (95% CI, 0.936-0.992). An optimal cut-off probability of ≥70% predicted the occurrence of adverse events in 87.8% of patients and correctly identified those who did not have adverse events 94.8% of the time. Pediatric Early Warning Score could detect the occurrence of adverse events with a sensitivity of 80.0% and identify those who did not have adverse events in 79.5% of cases with area under the curve=0.869 (95% CI 0.809 to 0.930). A comparison of the two tests yielded a statistical significance in their specificity. **Conclusion:** Physician gestalt was significantly associated with adverse events occurrence prediction than Pediatric Early Warning Score. However, a Pediatric Early Warning Score can also be used in the Emergency Department.

137. Kipasika, T. (2024). Factors associated with contact dermatitis among health care workers at Amana and Mwananyamala regional referral hospitals in Dar es salaam, Tanzania. Muhimbili University of health and allied sciences.

ABSTRACT

Background: Contact dermatitis ranks as one of the primary occupational skin conditions worldwide. Healthcare workers face an elevated risk of contact dermatitis due to the nature of their responsibilities in patient care. Despite various efforts to manage contact dermatitis, awareness among healthcare workers regarding the disease and its related factors remains insufficient. Tanzania has limited data on contact dermatitis among healthcare workers, primarily from tertiary hospitals, which only represent a small

fraction of healthcare workers in the country. **Aim:** This study aimed to assess the extent and identify the factors linked to contact dermatitis among healthcare workers at Mwananyamala and Amana Regional Referral Hospitals. **Materials and methods:** Cross-sectional examination conducted at Regional Referral Hospitals in Dar es Salaam from in June 2024. A total of 380 participants engaged in clinical activities were selected. Data was collected through interviews using a structured form and analysed using Stata software. Chi-square tests and modified Poisson regression models were employed to investigate factors related to contact dermatitis, including personal and work-related variables. Significance level was set at a p-value below 0.05. **Results:** Prevalence of contact dermatitis was 30.0% among health care workers at Amana and Mwananyamala regional referral hospitals. Being female was associated with contact dermatitis (APR=1.11, CI: 1.02-1.18, p-value 0.006), personal history of hay fever (APR=1.08, 95% CI: 1.00-1.16) and personal history of ever being diagnosed with any allergy (APR=1.14, 95% CI: 1.05-1.24). Working in the medical department had a higher prevalence to contact dermatitis (APR=1.10, CI: 1.00-1.22, p-value 0.044). Using more than 10 pairs of gloves per day and working more than 8 hours per day were associated with contact dermatitis (APR=1.19, 95% CI: 1.06-1.34) and (APR=1.15, 95% CI: 1.07-1.23) respectively. Most affected area of the body was the hands by 85.3%. **Conclusion and Recommendations:** various factors personal and work-related factors associated with contact dermatitis. To reduce and prevent this hospital management should allocate resources for PPE, hypoallergic pro and diagnostic tool, HCWs maintain good personal hygiene and appropriate skin care by moisturize skin regularly after clinical activities.

138. Kisangija, J. (2024). Patients' lived experiences and coping mechanisms following mitral valve replacement at Jakaya Kikwete Cardiac Institute, Dar es salaam Tanzania. Muhimbili University of Health and Allied Sciences.

ABSTRACT

Background: Mitral valve disease contributes to the mortality rate among valvular heart diseases globally and has a significant impact on the health of patients. Following mitral valve replacement, patients have to undergo life transitions to cope with living with artificial valves for the rest of their lives. This has physical, psychological and socio-economic impacts on the patient and the family; however, little has been explored about these experiences in the context of Tanzania and how the patients cope with the situation. **Aim of the study:** The objective of this study was to explore patients' lived experiences and coping mechanisms following mitral valve replacement at JKCI in Dar es Salaam Tanzania **Material and Methodology:** An explorative descriptive qualitative design was employed in this study. About 17 patients living with artificial mitral valves attending a cardiac clinic at JKCI were purposefully selected and interviewed where saturation of data was reached. An in-depth interview guide was used for data collection. Data from participants were audio-recorded then transcribed verbatim and analyzed using a thematic analysis approach. **Results:** The results showed three themes, the first theme being "quality of life" with four subthemes: (1) physical consequences, (2) social consequences, (3) economic consequences, and (4) psychological consequences. The second theme is "quality of care" with three subthemes: (1) patient-healthcare provider interaction, (2) treatment resources and accessibility, and (3) need for self-care training. The third theme is coping with life with four subthemes: (1) Socializing, (2) Accepting new life, (3) Religious coping, and (4) Seeking support. **Conclusion:** The results showed that patients after valve replacement present with physical, socio-economic, and emotional impacts. However, by sharing experiences, implementing coping mechanisms, and accessing appropriate support networks, patients enhance their quality of life. Patients need to communicate openly with healthcare providers, and seek out resources personalized to their individual needs. Adapting to a new life may be challenging, but with good support and it is possible to lead a fulfilling life despite the presence of artificial valves.

Keywords: Coping mechanisms, Lived experience, Mitral valve replacement, valvular disease.

139. Kisenha, D.C. (2024). Clinico-pathological profiles, treatment and treatment outcomes of renal cell carcinoma among adult patients treated at Muhimbili national hospital. Muhimbili University of Health and Allied Sciences.

ABSTRACT

Background: Renal cell carcinoma (RCC) is a significant public health concern globally, yet there is limited knowledge about its clinico-pathological profile, treatment modalities, and treatment outcomes in Tanzania. This study addresses this knowledge gap by focusing on adult patients treated at Muhimbili National Hospital (MNH). **Objective:** To determine the clinico-pathological profile, treatment strategies, and treatment outcomes of RCC among adult patients treated at MNH. **Methodology:** This analytical cross-sectional study involved adult RCC patients treated at MNH. Data were collected using a checklist, and statistical analysis was performed using SPSS version 27. The analysis involved summarizing demographic data using mean, median, standard deviation for continuous variables, and frequencies/percentages for categorical variables. **Results:** This study encompassed 70 RCC patients, with a mean age of 54 years and a slight male predominance (54.3%). The most prevalent comorbidity was hypertension (32.9%). Common symptoms included flank pain (65.7%) and hematuria (25.7%). Tumors were evenly distributed between right (51.4%) and left (45.7%) sides. Stage IV tumors were the most common (34.3%). Surgical interventions primarily involved radical nephrectomy (81.4%). Histological subtype significantly influenced disease-free survival rates, with clear cell carcinoma showing higher rates (80.0% for <5 years and 20.0% for >_5 years). **Conclusion:** The study provides insights into the diverse clinico-pathological profiles, treatment modalities, and outcomes among RCC patients. Clear cell carcinoma demonstrated significant associations with disease-free survival rates. These findings highlight the importance of personalized treatment strategies tailored to histological subtype in optimizing patient outcomes. Further research is warranted to validate these associations and refine RCC management approaches.

140. Kisima, M. (2024). Adveres drug reactions of bupivacaine and associated factors in spinal anesthesia: a cross-sectional study in Dar es salaam. Muhimbili University of Health and Allied Sciences.

ABSTRACT

Background: Adverse drug reactions (ADRs) pose a global public health threat, substantially contributing to death. Drug-related adverse events, including ADRs, have been reported to be among the leading causes of morbidity and mortality worldwide, significant costs may be saved if drug-related adverse events, including ADRs, were prevented. Bupivacaine is one of the common local anesthetics (LA) used in medical practice in Tanzania to induce anesthesia and analgesia in surgical procedures and pain management in operating theaters and other clinical settings. **Aim: T**his cross-sectional study assessed Adverse drug reactions of bupivacaine and associated factors in spinal anesthesia in Dar Es Salaam, Tanzania. **Methodology:** This was a cross-section study conducted at Muhimbili National Hospital, Mwananyamala Regional Referral Hospital (RRH), Temeke RRH, and Amana RRH where data from patient files reviewing pre-operative notes, operating theatre (OT) notes, and post-operative notes of the Patients who underwent a certain procedure using bupivacaine injection were collected. This study focused on the patient's social demographic information, medication history, Dose and brand name of bupivacaine injection given, time of administration to the time of ADR, administered personnel, ADR observed, and management of the reaction. Data were analyzed using IBM SPSS Statistics for Windows, Version 26.0. Armonk, NY: IBM Corp. These included frequencies for categorical variables and mean (+- Standard deviation – SD) or median (interquartile range-IQR) for continuous variables. Logistic regression performed and a Chi-square test was used to assess the predictors of the ADRs associated with bupivacaine use in hospitalized patients in Tanzania. The results with p-value < 0.05 was considered to be statistically significant. **Results:** A total of 469 participants were enrolled from MNH, Amana RRH, Temeke RRH, Mwananyamala RRH, where 14 (3%) were males and 455 (97%) were females. The median age was 35 (IQR; 30, 39) years. More than half (53.7%) of the study participants were aged between

31 and 40 years. Of the participants, only 69 (14.7%) were drinking alcohol. 44.14% of the study participants experienced ADRs. Hypotension, Shivering, Urticaria/Itching, difficulty in breathing were found as ADRs in this study. The experienced ADRs were managed by oxygenation, positive pressure ventilation and the use of ephedrine injection. **Conclusion:** This study shows that bupivacaine injection administered intrathecally is safe since there was no any death among all the study participants. Moreover, further studies are needed mostly prospective and qualitative which will explore more and make sure all ADRs associated with Bupivacaine Injection such as Hypotension, Shivering, Urticaria/Itching, difficulty in breathing and all the associated factors that are significant in this study are studied and mitigated as much as possible to ensure safety of patients who are using Bupivacaine as Spinal Local anesthesia.

141. Kiwale, Z, A. (2024). Patient's acceptability of comprehensive community-based integrated care services for HIV and non-communicable Diseases in Dar es salaam. Muhimbili university of health and Allied Sciences.

ABSTRACT

Background: HIV is a global public health threat, affecting nearly 40 million people worldwide, but the majority are in low-and-middle-income countries. Currently, the incidence of Non-Communicable Diseases (NCDs) among people living with HIV is increasing, which complicates efforts in care and management for both commodities within communities. Despite the presence of community-integrated care initiatives for the management of such comorbidities, the acceptability of the intervention from patients' perspectives isn't well explored. Study **Objective:** The study aimed to explore patients' perspectives on the acceptability of comprehensive community-based integrated care services for HIV and NCDs in Dar es Salaam, Tanzania. **Materials and Methods:** This study employed a qualitative cross-sectional design with a phenomenological approach. Conducted at four community sites in Kinondoni Municipality, the study focused on patients enrolled in the INTE-COMM program with diagnoses of HIV, hypertension, or diabetes. Using purposive sampling, 16 participants were selected. Data were analyzed

thematically following Braun and Clarke's six-step process, with Dedoose software facilitating systematic coding and organization. **Results:** Positive attitudes toward community-integrated care, driven by reduced logistical burdens, enhanced accessibility, and strengthened patient-provider relationships was observed. Patients reported high satisfaction with the personalized and supportive care they received, underscored by effective communication, privacy, reduced social stigma experience before and minimal disruption to daily activities. Additionally, the proximity and convenience of service locations fostered a sense of empowerment and self-efficacy, allowing patients to actively engage in their healthcare with greater ease and confidence. The consistent medication availability and punctual service delivery contributed significantly to patient adherence and trust in the care model. **Conclusion:** Strong patient acceptance of community-based integrated care for HIV and NCDs in Dar es Salaam, attributed to its accessibility, convenience, and supportive care model. Findings suggest that community-based care models can effectively meet the needs of patients with chronic conditions, particularly in resource-limited settings.

142. Kiwango, F. (2024). Prevalence and factors associated with anxiety among people living with HIV/aids in Moshi municipality, Kilimanjaro region, Tanzania. Muhimbili University of health and allied sciences.

ABSTRACT

Introduction: Human immunodeficiency virus (HIV) is a retroviral infection that weakens the immune system. If left untreated, HIV progresses to the acquired immunodeficiency syndrome (AIDS). In Tanzania, 1.6 million of about 70 million people live with HIV (PLWHA) and are more prone to mental health illnesses such as generalized anxiety disorder that may affect clinical outcomes. While several generalized anxiety risk factors in PLWHA have been identified elsewhere, there is a limited understanding of the prevalence of significant anxiety symptoms and its associated risk factors among adult PLWHA in the Tanzanian context. **Objective:** To determine the prevalence of significant anxiety symptoms and associated risk factors among adult

PLWHA attending selected HIV clinics (CTC centers) in Moshi Municipality, Kilimanjaro Region **Materials and methods:** The study used a hospital-based cross-sectional quantitative analytical design at CTCs in Moshi Municipality, in the Kilimanjaro region. Four out of 19 CTCs were randomly selected using multistage cluster sampling. A systematic random sampling approach enrolled adult PLWHA (18 years and older) participants in the study from September to October 2023. Data was collected using face-to-face interviews by Redcap software version 5.27.2. Significant anxiety symptoms were assessed using a validated Swahili version of a 7-item Generalized Anxiety Disorder Screener. A semi structured questionnaire captured the social demographic and clinical information characteristics of participants. STATA version 15 was used to enter and analyze data, respectively. The sample's description was summarized using frequency distributions for categorical measures, mean with standard deviations (SD), and medians with interquartile ranges for continuous variables. Bivariate analyses identified risk factors associated with significant anxiety symptoms at p-values ≤0.20 for inclusion in logistic regression models to determine independent risk factors at p-values <0.05. The MUHAS Senate Research and Publications Committee provided ethical clearance and permission sought from the respective research CTCs. **Results:** A total of 593 PLWHA participated in the study, 429 of whom were female (72.3%). The mean age of participants was 47.5 years (SD=13.2), and 12.5% screened positive for significant anxiety symptoms. Participants treated at the tertiary health facility level compared to the primary showed a seven times higher likelihood of significant anxiety symptoms (AOR=7.4, 95% CI: 6.14-9.04, P-value=0.00). Significant anxiety symptoms were associated with reported substance use compared to none, increasing the likelihood nearly five-fold (AOR= 4.69, 95% CI: 1.12-19.53, P-value = 0.03). Screening positive for probable depression versus not increased by five times the likelihood of significant anxiety symptoms (AOR= 5.02, 95% CI: 2.34-11.06, P-value = 0.00). Similarly, participants with high compared to those with low anxiety sensitivity were 15 times more likely to have significant anxiety symptoms (AOR= 15.39, 95% CI: 3.88-61.14, P-value = 0.00). PLWHA reporting low, compared to those reporting higher adaptive coping mechanisms, were three times more likely to have significant anxiety symptoms (AOR=

3.48, 95% CI: 1.43-8.46, P-value = 0.01). Reporting higher compared to low levels of perceived social support increased three times the likelihood of developing significant anxiety symptoms (AOR=3.35; 95% CI: 1.61-6.96, P-value = 0.00). **Conclusions:** Significant anxiety symptoms were common, affecting one in eight adults PLWHA in this study. Receiving care at CTCs located in higher health facility levels, using substances of abuse, screening positive for probable depression, high anxiety sensitivity, higher social support, or low use of adaptive coping mechanisms were associated with significant anxiety symptoms. **Recommendation:** Integrating routine anxiety screening in PLWHA and raising awareness among patients and their primary caregivers is recommended**.**

Keywords: Anxiety prevalence, PLWHA, and GAD

143. Koka, C.E. (2024). Factors associated with iron and folic acid supplements uptake among pregnant women in Dar es salaam, Tanzania. Muhimbili university of health and Allied Sciences.

ABSTRACT

Background: Anemia in pregnancy is a public health concern globally particularly in developing countries like Tanzania. Iron and folic acid (IFA) deficiencies during pregnancy have harmful outcomes to both the mother and fetus. Uptake of the IFA supplements in Tanzania have remained low despite various interventions and health promotion messages. Hence need to address the knowledge gap on factors for IFAS uptake by assessing the factors associated with IFAS uptake among pregnant women in Tanzania. **Materials and Methods:** A cross-sectional survey was conducted using quantitative approach. Purposive sampling of the hospitals was done. A simple random sampling technique (lottery technique) was used to obtain the study participants. The target population was post-delivery women in postnatal wards of Temeke, Mwananyamala and Amana regional referral hospitals. A total of 428 participants were recruited in the study. Descriptive analyses, bivariate and multivariate analyseswereconductedusing IBM SPSS Statistics 23. **Results:** Less than one in three pregnant women (31.8%) attending ANC at referral hospitals of Dar es salaam had an

appropriate uptake of IFAS among women attending ANC. IFAS uptake was associated with multiparity (AOR=0.26 95% CI 0.10 – 0.67), increased with the frequency of ANC visits, family support (AOR=0.083 95% CI 0.01 – 0.62), and wealth index (AOR=11.68 95% CI 2.91 – 89.57). IFAS uptake was also 9 times higher among women whose households had food security than those women whose households had food insecurity access (AOR=9.21 95% CI 1.82 – 10.33). **Conclusion and recommendations:** IFAS uptake among pregnant women attending regional referral hospitals in Dar es Salaam was only 31.8%. Such unprecedented low uptake needs to be addressed to improve the burden of anemia among pregnant women in Tanzania and areas with similar contexts. Targeted interventions are needed among pregnant women with higher parity (multiparous women), with fewer ANC attendances, with challenging family support, with household economic hardship (low wealth index), and those from houselholds with food insecurity.

144. Kokubanza, J.K. (2024). The burden and outcomes of hemodialysis catheter-related infections among hemodialysis patients at Muhimbili National Hospital for the past two years. Muhimbili University of health and allied sciences.

ABSTRACT

Background: Given the increasing burden of kidney diseases, hemodialysis as the primary method of renal replacement therapy is a lifesaver, elongates the survival of patients, reduces morbidity, and improves the quality of life. Increased need for hemodialysis among patients with End Stage Renal Disease (ESRD), and Hemodialysis (HD) catheter-related infections have shown a significant role in hospitalizations, morbidity, and death and raise significant concerns about the costs of treatments or premature removal and replacements of HD catheters. Approximately 50% of hemodialysis catheters fail within 1 year and many patients die within 6 months of the initiation of Hemodialysis (HD), which may be related to, among others, vascular-access-related complications (1)Aim of the study: The study aimed to assess the Burden and outcomes of Hemodialysis Catheter-related infections among hemodialysis patients who received maintenance HD services at Muhimbili National Hospital for the past two years.

Methodology: A Retrospective Cohort single-center hospital-based study with a quantitative approach involving 360 end-stage renal disease participants, aged above 18 years was conducted at Muhimbili National Hospital to determine the Prevalence and outcomes of hemodialysis catheter infections among hemodialysis patients who received maintenance HD services from January 2022 to December 2023. Kaplan-Meir & log-rank tests were used to evaluate the effect of infection on survival by type of catheter. The prevalence of HD-Catheter infections was presented in % and 95% Confidence intervals. Cox regression analysis was used to estimate the effect of the various factors on the outcomes of the HD catheter-related infection. Mann Whitney U test was used to compare the effect of the CVC and TCC on the CRIs.**Results:** 360 hemodialysis participants with a mean age of 53 ± 14 years participated in the study. The prevalence of HD catheter-related infection was found to be 51.1%, 56.4%, and 80.8% mainly based on the cause of Fever, Blood/Pus cultures results, and Types of Vascular access respectively. 51.4% of the patients suffered from both Hypertension and Diabetes Mellitus as the main underlying illness for ESRD, and 80.8% used a Central Venous Catheter while only 19.2% had Tunneled Central Venous Catheters. Outcomes of the CRIs were mortality (9.8%), Re-catheterization (75%), Readmissions (12%), and ICU admissions (17.9%). Mann Whitney U test showed that CVC had a slightly higher effect (33344) on a Catheter-related infection than TCC (SumR-31636) although it was not statistically significant (p-0.89). Also, the Kaplan-Meir test found no significant difference in effect between CVC and TCC on Catheter-related infections hence the curves (CVC & TCC) were parallel regarding the time of Catheter device in the body (p >0.05). **Conclusion:** The study found that infections are common complications in individuals with end-stage renal disease (ESRD) undergoing long-term hemodialysis with the Prevalence of Catheter-Related Bloodstream Infections (CRBSI) based on fever cause (51.1%), Blood/ Pus Culture (Bacteria growth) results (56.4%), and type of vascular access (80.8%). Among the participants population, males were the most frequently affected gender. Several clinical outcomes were associated with HD catheter-related infections, including admissions to Intensive Care Units (ICUs), a high rate of re-catheterization, hospital readmissions due to sepsis-related to hemodialysis catheters, mortality rates, and the

duration of catheter placement in hemodialysis patients, which ranged from 30 to 90 days. The only factors that demonstrated a significant impact both positively and negatively on mortality and ICU admissions for participants with HD catheter-related infections were vocational training and adherence to treatment protocols. Additionally, being retired emerged as a positive predictor for the likelihood of re-catheterization among these participants.

145. Kuluthum Said Mohamed, K.S. (2024). Assessment of cardiovascular patient's satisfaction and its associated factors at outpatient clinic in Jakaya Kikwete cardiac institute. Muhimbili University of Health and Allied Sciences.

ABSTRACT

Background: Cardiovascular Diseases are the leading cause of death worldwide, accounting for about 17.9 million deaths in 2019, which represents 32% of all global deaths and 80% for Low and Middle-Income Countries. Patient satisfaction reflects quality care. Factors like good interaction, respect, and low waiting times improve care. Tanzania is on a project to expand cardiovascular care but lacks data on patient satisfaction. **Aims**: To comprehensively assess the dynamics of cardiovascular patient satisfaction with multifaceted factors associated with their contentment within the outpatient setting at the Jakaya Kikwete Cardiac Institute. **Materials and methods**: The quantitative analytical cross-sectional design was employed in this study with 273 participants. Data was collected using close-ended questionnaires. Data was analyzed using SPSS Version 25. Frequencies were obtained for descriptive statistics. Satisfaction domains were categorized as satisfied or unsatisfied using a cut-off point of 3, where >3 was termed as satisfied and < 3 as unsatisfied. The overall satisfaction level was obtained by calculating the mean percentages of the categorized satisfaction domains. A bivariate analysis was carried out with $p<0.2$ deemed fit for a multivariate analysis, which set the p-value <0.05 as statistically significant. **Results**: In a study of 273 participants, the majority were aged 35-55 (46.5%), with 52.4% male and 63.7% employed, though only 18.3% had high income. The majority, 224 (82%), were satisfied, and 49 (18%) were

dissatisfied with outpatient services. Satisfaction was highly rated on cleanliness and staff communication, but low for waiting time (31.2%). Key factors influencing satisfaction included Living in Dar Es Salaam (AOR = 1.411, p = 0.016), higher income (AOR = 1.500, p = 0.044), and uninsured (AOR = 1.846, p = 0.014). **Conclusion:** Despite cardiovascular patients in JKCI being satisfied overall with outpatient services, study findings highlight there might be room for improvement in outpatient services, especially regarding reducing waiting time/adequacy staffing and addressing socioeconomic disparities towards quality cardiovascular outpatients' services.

146. Kunjumu, I. (2024). A Comparison Between 6 Hourly To 12 Hourly Vital Signs Monitoring on The Outcome of Stroke Among Patients Admitted at Mlonganzila Hospital in Dar Es Salaam, Tanzania. Muhimbili University of Health and Allied Sciences.

ABSTRACT

Background: Stroke is the second leading cause of death after cardiovascular diseases and a leading cause of severe disability. The first 72 post admission from sustaining a stroke are critical for determining the patient's level of disability and early mortality. It is pivotal to detect early warning vital signs that can alert patients' susceptibility to complications and death. **Objective:** To assess stroke outcomes among patients admitted at Mlonganzila Hospital whose vital signs were monitored within 72 hours from admission at 6 hourly intervals compared to 12 hourly (usual care). **Methodology:** This cohort study enrolled patients admitted with stroke at Mloganzila Hospital. Participants' demographic, and clinical characteristics at admission and follow up were recorded in a structured questionnaire. Stroke severity and disability levels at admission and follow up w were assessed using the National Institute of Health Stroke Scale and Modified Rankin Scale S troke type was classified by using brain imaging. Atadmiss ion, participants were randomly assigned to either: usual care 12 hourly) or intensive (6 hourly vital signs monitoring for 72 hours and thereafter participants continued with usual care monitoring (12 hourly) until discharge. The primary outcomes were disability level or death within

30 days. Data was entered into SPSS version 23 and transferred into STATA version 12 for analysis. Vital signs were summarized as median and interquartile ranges using box plots. O outcomes were compared between the usual ca re and intensive vital signs monitoring groups. Kaplan Meier curve s was used to summarize mortality between the two groups and a p value of < 0.05 signified statistical significance. **Results:** A total of 306 participants were enrolled, the mean age was 59. 6±14 years, 16453.6% were male 195 (63.7%) had hemorrhagic stroke and 238 (77.8%) were hypertensive. At 72 hours post admission 34 (22.2%) vs 25 (16.3%) participants had asevere stroke in 6 hourly and 12 hourly vital signs monitoring groups respect vely value 0.192 M mortality was significantly higher at 30 days in 12 hourly compared to the 6hourly vital signs monitoring 76 49.7 vs 55 32 respectively p value =0.02. **Conclusion and Recommendations:** Stroke mortality within the first month is higher inpatients whose vital signs are monitored 12 hourly compared to 6 hourly in the first 72 hours. The establishment of stroke units that are equipped with vital sign monitors for each patient in addition to adequate staffing to ensure that prompt int erventions are instituted can reduce mortality.

147. Kusekwa, S. (2024). Magnitude and Determinants of Adherence to Iron and Folic Acid Supplementation Among Pregnant Women in Katavi Region 2022''. Muhimbili University of Health and Allied Sciences.

ABSTRACT

Background: The most frequent causes of anaemia in pregnant women in sub-Saharan Africa are iron and folic acid deficiencies. Iron and folic acid deficiency anaemia harm both mother and child health. Tanzania adopted the World Health Organization's (2012) recommendation of daily Iron and folic acid supplementation(IFAS) as a key intervention to reduce the risk of maternal anaemia, and congenital malformations. However, its adherence is still low (20.3%) thus not conferring the expected benefits. However, adherence may have been changing over time but there are no reported sources/studies over the last five years, particularly for Katavi. The study aimed to determine the

magnitude and assess the factors associated with IFAS adherence among pregnant women in the Katavi region for 2022. **Methodology:** A cross-sectional hospital-based study was conducted on pregnant women in the Katavi region in 2022. A mixed methods approach was used to comprehensively understand the research question due to the obtained numerical data and the provided insights into context, motivations, and perceptions. Katavi region was selected purposively based on its low performance for the TDHS-2015/2016, which provided ongoing government interventions in the region. Data were collected from 396 pregnant women consecutively using an interviewer-administered questionnaire. Quantitative data was entered in MS Excel, cleaned, and exported to STATA 15.1 for analysis. Bivariate and multivariate negative binomial regressions were employed to identify the influencing factors. Four focus group discussions and key informant interviews were conducted for the qualitative component. Qualitative data was transcribed into English, and coded, and themes identified were analyzed manually in Microsoft Word and triangulated with quantitative findings. **Results:** A total of 396 pregnant women were interviewed. The Median age of the respondents was 27 (IQR=21-34) years. Adherence to IFAS was found to be 30.1%; 95% CI = 2.75- 11.79. Self-employed [aPR=1.6, 95% CI=1.02-2.42], Prime gravida [aPR=1.7, 95% CI = 1.20-2.50], number of ANC visits above four [aPR=20.7, 95% CI = 7.73-55.20], good knowledge of IFAS [aPR=1.5, 95% CI = 1.13-1.95], good anaemia knowledge [aPR=1.7, 95% CI = 1.17-2.59] were factors associated with adherence to IFAS. The qualitative study found that side effects, forgetfulness, and inadequate stocks of IFAS at health facilities are reasons for non-adherence.**Conclusion:** Iron and folic acid adherence is still low in the Katavi region. This study has identified self-employed, gravidity, the number of ANC visits attended, and knowledge of IFAS and anaemia as factors associated with adherence. This emphasizes the need for targeted interventions that consider occupational, educational, and healthcare access elements to improve iron and folic acid adherence among pregnant women.

148. Kwangu, M.Z. (2024). The health sector's response to gender-based violence in Tanzania: lessons from ilala district. Muhimbili University of Health and Allied Sciences.

ABSTRACT

Background: Gender-based violence (GBV) ranks among the most terrible and widely distributed of all human rights violations and is a public health burden. Tanzania's health sector has implemented policies to combat GBV, including the National Policy Guideline (2011) and the National Plan of Actions for the End-Violence Against Women and Children 2017/18 2021/22. Despite the presence of national policy guidelines for anti-GBV, the GBV rate remains high, and little is known about how well policy-level measures have been implemented by the health systems at the district level. This study aimed to explore responses at both facility and community levels. **Objectives:** To explore the health sector's achievements and challenges in responding to GBV in the Ilala District using the World Health Organization Health Systems Framework components. Materials and **Methods:** The study used a qualitative case-study approach, gathering data through document reviews, semi-structured interviews, focus group discussions, and observation. The study used purposive sampling to carefully choose and approach 51 participants suitable for the study. The study involved healthcare workers (HCWs), survivors of GBV at a one-stop center, community members, district/facility leaders, and police desk officers. Thematic analysis was used to analyse the NVivo 14 trial. **Results:** The health sector at the district level has responded to GBV through integrated services, para-social groups, exemptions, trained HCWs), health information systems, and safety plans. However, the response still faces challenges including: limited community awareness, limited space, a shortage of forensic science-trained HCWs), limited services and funds, and a fear of reporting among community members**. Conclusion and Recommendations:** The study highlights the health sector's response to GBV through integrated services, para-social groups, exemptions, and survivors' unification, but acknowledges challenges like limited community awareness, funding, and fear of reporting. Ilala district government should expand One GBV Stop Centers, raise

community awareness, allocate percentages to Comprehensive Council Health Planning and Comprehensive Hospital Operational Plan funds for GBV initiatives, and train HCWs in forensic evidence. The Tanzania vi Police Medical Examination Form (PF.3) needs revision to facilitate private health facilities' completion, and the Ministry of Health should expedite the finalization process for universal health coverage

149. Lambileki, D. A. (2024). Process evaluation of the implementation of the monitoring system in the national guidelines for water, sanitation and hygiene in health facilities among district implementors and in healthcare facilities in Temeke municipal council. Muhimbili University of Health and Allied Sciences.

ABSTRACT

Background: Water Sanitation and Hygiene (WASH) is an important element of human health. Water sanitation and hygiene in health facilities have been a problem in Tanzania as no guidelines enforced the improvement of WASH in health facilities. Inadequate WASH in health facilities has been linked to several diseases that affect inpatients as well as maternal and neonatal health, increasing their risk of contracting infections. The need to create a guideline was inevitable, this led to the introduction of the National WASH in Health Facilities guideline in 2017 which was expected to improve the planning, budgeting, monitoring and maintenance of WASH services and facilities in health facilities. **Objective:** To evaluate the implementation of the monitoring system in the National WASH Guidelines in Healthcare Facilities among District Implementors and across Health Facilities in Temeke Municipal, in Dar-es-salaam region. **Methodology:** This process evaluation adopted a qualitative case study design. A semi-structured interview guide was used to collect data from key informants. The study was conducted in 4 health centres in Temeke municipal council namely Kijichi Health Centre, Yambol Health Centre, Maji Matitu Health Centre and Buza Health Centre. The study was also conducted in the Temeke Municipal Council offices. A total of 8 key informants were interviewed. Qualitative content analysis was used for analysis whereby NVivo software version 12 was employed in data management and analysis. **Results:** The study found

implementation strategies and practices have improved monitoring of WASH activities at health facilities at the district level and in healthcare facilities and these included data collection and reporting, quality assurance and assessment, performing personal roles and responsibilities, communication and coordination. The study found various stakeholders facilitated the monitoring activities through financial support, support in the construction of WASH infrastructures, participation in WASH meetings, collaboration and cooperation. Moreover, the study found barriers such as inadequate funds, unreliable water supply, shortage of staff, and insufficient training among staff which hinder monitoring of WASH activities and implementation of the guideline. **Conclusion:** The implementation of the monitoring system in the guidelines has improved monitoring of WASH in health facilities in general but there are still barriers that limit adequate monitoring of WASH in healthcare facilities and the implementation of the guidelines. There are several implications from these findings that affect both the policy and practice of WASH in healthcare Facilities The results highlight the need for enhanced policy frameworks, increased resource allocation, improved training programs, and stronger multi-stakeholder collaboration to ensure that monitoring of WASH services in healthcare facilities is implemented effectively and sustainably. Addressing these challenges would significantly improve healthcare service delivery and patient outcomes, particularly in resource-constrained settings like Temeke Municipal. The potential impact of this study on healthcare facilities and WASH practices includes enhanced training and improved monitoring systems, improved patient health outcomes, and stronger collaboration among stakeholders. These improvements would not only benefit healthcare facilities but also extend to the wider community, ultimately promoting better public health and reducing the burden of preventable diseases.

150. Lameck, I. (2024). Computed tomography patterns, score and outcome of intracerebral hemorrhage among patients attending Muhimbili orthopedic institute and Muhimbili national hospital-Mloganzila. Muhimbili University of Health and Allied sciences.

ABSTRACT

Background: Intracerebral hemorrhage (ICH) is life threatening form of stroke and is characterized bleeding into the brain parenchyma, it is associated with high mortality rates, and poor recovery outcomes. The mortality rate is nearly 50% within the first month and only 20% of the patient survived can live independently. There is significant increase in number of patients with ICH due to rise in number of non-communicable diseases. With this entire early outcome assessment is important in order to optimize the treatment options of these patients. **Objective:** The main purpose of this study was to investigate the computed tomography patterns, ICH score and30days outcome of intracerebral hemorrhage among patients attending Muhimbili orthopedic institute and Muhimbili national hospital. **Methodology:** This was a hospital-based prospective cross-sectional conducted at Muhimbili National Hospital (MNH)-Mloganzila and Muhimbili Orthopedic Institute (MOI) from September 2023 to March 2024. We analyzed data from 142 patients with ICH to evaluate CT patterns, severity score (ICH score) and possible predictors of 30day mortality by considering clinical, radiological and treatment parameters. Data from this study was analyzed using Statistical Package for Social Sciences (SPSS) version 23. Data was compared using cross tabulation and chi square statistical test was used to check for the association between the independent variables and 30- day mortality outcome (p value <0.05). Univariate and multivariate logistic regression was used to check for the magnitude and direction of the association for the variable shown to be statically significant. Kaplan Meier survival curve was done for two ICH categories to check for their association with 30days mortality rate. **Results:** A total of 142 patients with ICH were studied. The mean age of the patients was (55±11) years, with a predominance of males (60%). Nearly all patients had hypertension (96%), a notable proportion had diabetes mellitus (14%) and 4% were smokers. Most ICHs were supratentorial (93%), primarily located in the basal ganglia (52%). A majority of patients (63%) had hematoma volumes >30cm³, and 66% exhibited hydrocephalus. Mortality rate in this study was 46%. Higher mortality rates were associated with larger hematoma volumes ≥30cc (p value<0.001), midline shift (p value<0.001), hydrocephalus (p value<0.001), higher ICH scores (≥3) (p value<0.001), presence of underlying lesion (p value<0.001) older age (>55 years) (p value<0.01), male gender (p value <0.03) and the

presence of underlying lesions (aneurysms). The mortality rate in patients with ICH score of 4 was 100%. Patients with higher ICH scores (≥3) had poor 30-day survival probability (0.25) (P<0.0001). **Conclusion. Majorities (96%) of patients with spontaneous ICH are** hypertensive and male are more affected as compared to female. Most of ICH are supratentorial in location. ICH is associated with high 30-days mortality (46%), it is almost 100% in patients with ICH score of 4. ICH score at admission, larger hematoma volumes, midline shift hydrocephalus, older age, male gender and the presence aneurysms are strong predictors of 30-day mortality in patients with spontaneous ICH. **Recommendation:** ICH score should be used for risk stratification to aid in patient management decision-making. There is a need for more studies with a bigger sample size to elicit the causes of death of patients on the EVD placement and also explore causes of high mortality (100%) in patients with an ICH score of 4 in our settings.

151. Lazaro, A.E, (2024). Clinicopathological characteristics and outcomes of thyroidectomy at Muhimbili National Hospital. Muhimbili university of health and Allied Sciences.

ABSTRACT

Background: Thyroid disorders are increasingly becoming common worldwide with a significant portion of the burden falling in Low- and middle-income countries (LMIC). Despite the significant advancements, thyroidectomy is still not without complications. Through continuous follow-up and research on patient characteristics and surgical outcomes, thyroidectomy is increasingly becoming a safer treatment option. **Aim of Study:** This study aims at assessing the clinical and pathological characteristics as well as surgical outcomes and their associated factors among patients who underwent thyroidectomy at Muhimbili National Hospital. **Methodology:** A 5-year (April 2018-March 2023) retrospective cohort study design was conducted at Muhimbili national hospital. All patients undergoing thyroid surgery were included. Perioperative data such as patient demography, clinical presentation, radiological investigations, cytology results and intraoperative factors. Outcome of interest was the occurrence of post operative

complications. Patient records were used to extract data on their surgical outcomes. Analysis was done to identify predictors of post operative complications where P value of < 0.05 was considered significant. **Results:** A total of 405 candidates were included in the analysis with a female predominance of 89.6% the mean age was 48years. A total of 108(26.67%) had at least one comorbidity. Anterior neck mass was the most common presenting feature at 98.5%. Thyroid USS was the most widely used investigation. Benign conditions had a higher prevalence at 77% with Nontoxic Multinodular goiter being the most common conditions overall and Papillary carcinoma being the most prevalent among malignant conditions. Preoperative anemia was seen in 42% of the candidates with only 58% reported to be euthyroid at the time of surgery. Suspicion of malignancy was the most common (43.7%) indication for surgical intervention followed by cosmesis 30.1%. Most patients had undergone lobectomy (27.2%) or Total thyroidectomy (24%). Post operatively, hypocalcemia was the most prevalent complication (13.3%) observed. Overall complication rate was 15.3%, with a mortality rate of 0.5%(n=2) and a 5-day mean length of hospital stay. Extensive surgical resections (Total thyroidectomy) and duration of symptoms (>10years) were observed to be statistically significant factors predicting occurrence of post thyroidectomy complications on multivariable Linear regression analysis. **Conclusion:** Though considered a safe procedure, thyroidectomy is not without complications. Patients with a long-standing goiter and those requiring extensive resections (undergoing total thyroidectomy) are at a relatively higher risk of such complications. Preoperative preparations and precautions need to be employed to ensure a safe surgical intervention with a short hospital stay.

152. Lazaro, M.M. (2024). Burden of cognitive impairment and associated factors among rheumatic heart disease patients at Jakaya Kikwete Cardiac Institute, Dar es Salaam, Tanzania. Muhimbili University of Health and Allied Sciences.

ABSTRACT

Background: Globally, rheumatic heart disease (RHD) affects an estimated thirty to seventy million people. Despite a drop in the incidence of RHD fatalities around the

world, 90% of those affected still live in developing nations. The burden of RHD in Tanzania is around 1-3% of the population. In patients with RHD, neuropsychiatric manifestation has been observed, such as cognitive impairment (CI). However, there is a noticeable research gap concerning CI in RHD patients, particularly in Tanzania. This study aims to address this gap. **Objective:** We aimed to determine the burden of CI and its associated factors among RHD patients at the Jakaya Kikwete Cardiac Institute (JKCI), Tanzania. Methodology: A hospital-based cross-sectional study was conducted from November 2023 to February 2024 at the JKCI. A sample size of 216 RHD patients aged ≥ 14 years was provided with informed consent/assent. We excluded patients with mental illness before being diagnosed with RHD. Recruitment was done by a consecutive sampling technique. A face-to-face interviewer-based questionnaire was used to obtain the socio-demographic and clinical characteristics of the study participants. The general practitioner assessment of cognition (GPCOG) tool is used to diagnose and assess the severity of CI. Data entry and cleaning were done using the REDcap tool, then data was analyzed using STATA version 15.1. Descriptive statistics was summarized using frequencies and proportions for categorical variables and a measure of central tendencies with respective measures of dispersion for numerical variables. Bivariable and multivariable logistic regression was used to assess associated factors of CI among patients with rheumatic heart disease. Ethical approval was sought from the MUHAS and JKCI Research and Ethics Committee**. Results:** A total of 216 patients with a diagnosis of RHD were studied. Above three-quarters were outpatient, with a median age of 27 years, and female predominance (51.4%). More than half 123 (56.9%) participants attained a secondary level of education or higher, nearly two-thirds 127 (58.8%) were insured and less than half 88 (40.7%) were employed. In substance use, less than a quarter of 12 (5.6%) were cigarette smokers but more than a quarter of 61 (28.2%) were alcohol drinkers. Prevalence of cognitive impairment was 44 (20.4%); old vi age (aPR=1.04; 95% CI: 1.02-1.05, pp<0.0001), positive HIV status (aPR= 5.00; 95%CI:1.8513.53, p=0.02), under nutrition (aPR=2.44; 95%CI:39-4.29, p<0.002), History of atrial fibrillation (aPR=3.16; 95%CI:1.08-9.30, p=0.036), and history of stroke (aPR=2.58; 95%CI:1.43-4.68, p =0.002) were independently associated with CI.

Conclusion and Recommendations: We recommend all patients with RHD be screened for cognitive impairment, specifically in patients with atrial fibrillation, positive HIV status, old age, undernutrition, and stroke

153. Lema, K. (2024). Incidence, microbiological agents and predictors of surgical site infections following open surgeries at Muhimbili National Hospital, Otorhinolaryngology Department. Muhimbili University of Health and Allied Sciences.

ABSTRACT

Background: Surgical site infection is the most common complication of surgery across all surgical disciplines. It has been associated with increased hospital stay, readmission, increased cost burden to both patients and the health care facilities, re-operation, and death. Adherence to surgical preventative strategies generated from modifiable risk variables significantly reduces the burden of surgical site infections. The magnitude, microbiological agents, and predictors of surgical site infections in the otorhinolaryngology department at Muhimbili National Hospital and Tanzania at large are unknown. **Objective:** To determine the incidence, predictors, and microbiological agents of surgical site infections among open surgeries done at Muhimbili National Hospital in the otorhinolaryngology department. **Methodology:** This was a hospital-based prospective cohort study, whereby all patients who had undergone open surgeries were assessed for signs and symptoms of surgical site infections 48 hours after an operation during a change of dressing, 7th day from the day of operation which was a day of follow-up and stitch removal and lastly the patients were interviewed at 30th day via phones for the symptoms of surgical site infections, clinically diagnosed SSI cases, swabs were taken for microbiological agents identification through culture, Gram stain and biochemical tests. Twenty-four hours following culture; colony morphological characteristics such as margin, color and shape were assessed, followed by Gram staining and finally biochemical tests were carried out, such as using catalase for Gram-positive bacteria; to differentiate streptococci from staphylococcus, coagulase test for

differentiating Staphylococcus aureus from other Staphylococci and APE20 and oxidase for specific Gram-negative bacterial identification. Data were collected through a structured data collecting tool with mixed questions and a checklist, and the interview started the day before the operation to obtain demographic data and other pre-operative risk factors. Data were entered in STATA version 15.1 for analysis and version 12.0 for graphing, the Chi-square test/Fischer exact test was used to test the statistical significance difference of SSI occurrence among different categorical variables, and the robust Poisson regression test for bivariable analysis based on crude risk ratio (cRR) and multivariable analysis based on adjusted risk ratio (aRR) was used to determine the strength of the relationship between independent and dependent variables. **Results:** A total of 89 post-open surgery patients, whose ages ranged from 13 to 78 years, were enrolled in the study. The median age was 44.5 years, and the interquartile range of (36-59). The majority (34.8%) of the study participants were in the age group (36–53), with an overall female preponderance of 1.12:1. The overall incidence of surgical site infections found in this study was 22.5%. About 13 (72.2%) of the bacterial species isolated were Gram-negative. Pseudomonas aeruginosa 7 (38.9%) followed by Staphylococcus aureus 3 (16.7%) were the most isolated bacterial species in this study. On bivariable robust regression analysis, factors such as alcohol drinking habits (RR 7.33, 95% CI 3.41-15.72, P<0.0001), human immunodeficiency virus/acquired immunodeficiency syndrome (HIV/AIDS) comorbidity (RR 5.2, 95% CI 2.84-8.86, P<0.0001), diabetes mellitus (RR 3.19, 95% CI 1.29-7.87, P=0.012), those who didn't receive antibiotic prophylaxis (RR 12.18, 95% CI 4.53-32.77, P=0.0001), high American Society of Anaesthesiologists (ASA) score (III and IV) (RR 6.56, 95% CI 2.16-19.87, P=0.001), and pre-operative waiting time of > 1 day (RR 3.47, 95% CI 1.71-7.04, P=0.001) significantly predicted occurrence of SSI. Whereas, on multivariable robust regression analysis, factors such as alcohol drinking habits (RR 1.71, 95% CI 1.01-2.94, P=0.048), HIV/AIDS comorbidity (RR 1.87, 95% CI 1.16-3.00, P=0.001) and those who didn't receive antibiotic prophylaxis (RR 9.92, 2.16-45.51, P=0.003), independently (i.e. without effects of confounders) predicted occurrence of SSI in this study. **Conclusion:** The findings of this study revealed high incidence (22.5%) of surgical site infections

(SSI) in the otorhinolaryngology department caused mainly by Pseudomonas aureginosa and Staphylococcus aureus. Surgical site infections occurrences were mostly predicted by alcohol use, HIV/AIDS comorbidity, and not using antibiotic prophylaxis in patients who had undergone open surgery. However, the predictors identified in this study can be prevented thus reducing the seemingly high incidence of SSI in the department.

154. Leoni, M. J. (2024). Evaluating acidomucin chemotypes in colorectal tumor patients at Muhimbili National Hospital. Muhimbili University of health and allied sciences.

ABSTRACT

Background: Colorectal cancer (CRC) is a significant global health concern and one of the leading causes of cancer-related illness and death worldwide. In Tanzania, the incidence of colorectal cancer is increasing, with many cases being diagnosed at an advanced stage. Most colorectal cancer arise from adenomatous polyps and their management is highly dependent on pathological evaluation of the grade of dysplasia and histological subtype. On the other hand, CRC, tumor grade and stage have been reported to be a significant independent determinant for prognosis, but there is a greater degree of inter-observer variation in assessment of histological grade. Mucins, which are vital for various physiological functions, have been extensively studied in relation to their roles and potential applications as adjunct to histology diagnosis and they have proved to have both screening, diagnostic and prognostic potential to patients with colorectal tumor. In Tanzania, there is limited research on potential role of mucins in colorectal tumors. Therefore, the aim of this study is to determine the acidomucin chemotype in patients with colorectal tumors at Muhimbili National Hospital. **Methods:** Total of one hundred nineteen (119) formalin fixed paraffin embedded (FFPE) colorectal tissue blocks from January to December 2023 together with their Hematoxylin and Eosin (H&E) slides were retrieved. Two tissue sections at 3microns, one stained with Alcian blue at pH 1.0 to demonstrate sulfated mucins (sulfomucins), the other section was stained with Alcian Blue at pH 2.5 to demonstrate sialomucins mucins (carboxylated mucins). To exclusively

demonstrate carboxylated mucins (sialomucins), dewaxed colorectal sections were pre-treated with 0.1N NaOH for 40 minutes before stained by AB pH2.5. The distribution of sialomucins and sulfomucins was determined by analyzing both the proportions of mucins and staining intensity. Results: Among the 119 participants, 99 had malignant tumors, and 20 had benign tumors. Of the 99 malignant cases, 86 (86.9%) were adenocarcinomas (adenoma-like), 9 (9.1%) were mucinous adenocarcinomas, and 4 (4.0%) were papillary carcinomas. Among the 20 benign cases, 4 (20%) were tubular adenomas, 4 (20%) were villous adenomas, 7 (35%) were tubule villous adenomas, and 5 (25%) were hyperplastic polyps, the gender distribution was nearly even, with male slightly outnumbering female by a ratio of 1.1:1. Majority of study participant vi (51/119, 42.9%) were aged between 45 and 64 years. Over half of tumors were located in the rectum. With regards to histological subtype of CRC, most cases 86/99(86.9%) were adenocarcinoma. Grade II tumor was the most common accounting for 64/99(64.7%). In benign cases, the findings revealed that villous adenomas had significant proportions of both sulfomucins and sialomucins in 75% (3 out of 4) of cases, with sulfomucins showing a moderate positive staining reaction (++), and sialomucins exhibiting a strong positive staining reaction (+++). Furthermore, hyperplastic polyps displayed a moderate proportion of sulfomucins in 80% of cases, with a moderate positive (++) staining reaction, and a marked proportion of sialomucins in 60% of cases, with strong positive (+++) staining reactions. In malignant cases, sialomucins were generally more frequency than sulfomucins as the dominant type of acidic mucin. Specifically, mucinous adenocarcinomas demonstrated a high proportion of sialomucins in all cases (9 out of 9, 100%), with these tumors showing a weak positive staining reaction (+) for sulfomucins and a very strong positive reaction (++++) for sialomucins. Moreover, moderate proportions of sialomucins were overwhelmingly present in histological grade II tumors, accounting for (38/47, 83.0%) of the cases. The study showed statistically significant associations between the proportion of sialomucins ($P < 0.001$) versus sulfomucins ($P< 0.001$) across different histological grades of colorectal carcinoma. **Conclusion:** Elevated levels of sialomucins in villous adenomas and hyperplastic polyps suggest that these molecules could serve as valuable biomarkers for screening and early detection of

colorectal cancer. Patients exhibiting high sialomucins expression may benefit from more frequent screenings and closer monitoring. Evaluating sialomucins levels may allow for better patient risk stratification, enabling personalized follow-up and preventive strategies. Incorporating sialomucins in routine diagnosis of colorectal tumor could possibly reduce the inter observer variability when diagnosing adenomas but also aid in grading of CRC. Further research and validation are necessary to establish standardized protocols for integrating sialomucins assessment into clinical practice.

155. Lewale L. L. (2024). Barriers to uptake of cervical cancer screening services, a perspective of women of reproductive age and health care workers a case study of Mombo HC, in Korogwe district, Tanga region. Muhimbili University of Health and Allied Sciences.

ABSTRACT

Background: Cervical cancer, is worldwide reported to be one of the most fatal and leading cause of death among cancer deaths in women, according to WHO report, approximately 90% of the worldwide deaths from cervical cancer occur in under-developing countries and the death rate is 18 times higher compared to developed countries. Tanzania reported being the country with the highest incidence rate of 50.9/100,000, compared to all other countries in the East African Region. Due to its high morbidity and mortality, cervical cancer disease creates a substantial burden on the affected women, largely affects women of reproductive age, and leads to significant losses for communities. Although WHO recommends CCS as a secondary prevention, that should cover at least 70% in a given country, for the elimination of disease, still there is a very low uptake rate of CCS in our country. **Objective:** This study identified the barriers that lead to the low uptake of cervical cancer screening among women of reproductive age, from the perspective of women of reproductive age and Health care workers, at Mombo, in Korogwe District, Tanga Region. **Methods:** This study, is a hospital-based, cross-sectional, case study design that involved data collection from the women of reproductive age, and health care workers, about the barriers to uptake of

cervical cancer screening by using in-depth interview data collection method. The data obtained from the participants were transcribed, summarized then translated into English language and analyzed using thematic analysis. **Results:** This study found various barriers toward cervical cancer screening uptake among women of reproductive age attending Mombo HC, and these were multilevel barriers grouped into three main groups which are Individual barriers including; (Information about CCS services, general Knowledge/awareness about the disease itself, Importance of screening for CC disease (perceived necessities for CCS), social-cultural barriers including; (Stigma on CC disease, Perception on female circumcision, Religious belief, access to female Health care xiii workers) and system barriers including; (Awareness among HCW on CCS guidelines, referral system on CCS services, lack of resources). **Conclusion:** The continuous existing gap of lack of proper knowledge and awareness about cervical cancer disease and CCS services among Women of Reproductive age, and HCW recommendations shown in this study, create the need for a comprehensive approach that needs to improve education, cultural sensitivity, social support and capacitate health care workers, in addressing the barriers to CCS uptake. Therefore, a multidisciplinary approach of health care workers, policymakers, and community leaders is key to developing effective strategies that will encourage more women of reproductive age to participate in cervical cancer screening programs.

156. Lija, S. J. (2024). Outcome evaluation of medication-assisted therapy regarding quality of life among people who inject drugs enrolled at Mwananyamala regional referral hospital. Muhimbili University of Health and Allied Sciences.

ABSTRACT

Background: Little is known about how drug users perceive their QoL. This is a significant gap in understanding the subjective experiences and perceived effectiveness of MAT on quality of life. This research aims to address the gap by exploring the lived experiences of individuals enrolled in MAT clinics, with a specific focus on evaluating how MAT influences and enhances their quality of life. **Objective:** This study aims to

evaluate the quality of life as an outcome of Medication-assisted Assisted Therapy among People Who Inject Drugs enrolled in MAT clinics in Mwananyamala Regional Referral Hospital. **Materials and Methods:** A cross-sectional study using both qualitative and quantitative approaches, with an outcome evaluation focus. The qualitative approach focuses on exploring their lived experiences through use of In-depth interviews for 6 participants, and four focus group discussions of 6 respondents each for data collection and Thematic analysis for data analysis. For the quantitative approach, a sample size of 427 Respondents was obtained through convenience sampling, WHOQOOLBREF Questionnaire was used for data collection and STATA version 15 for data analysis. Results: 84.1% of PWIDS enrolled in medication-assisted therapy had a good quality of life which is signified by the above average scores across physical, social, psychological and environmental domains. PWIDs experienced good QoL as an outcome of MAT including overall improvement in physical and psychological health, social improvement and acceptance, Government support, adherence, commitment to treatment and having employment. unsatisfying experiences of Mat stigma among service providers, long waiting times, punishments, lack of support, need for change in service structure that is not inclusive and, transportation challenges such as lack of fare and long distance to clinic hindered good quality of life as an outcome of MAT. xv **Conclusion:** According to this study, Medication Assisted Therapy is effective in enhancing the quality-of-life for people who inject drugs. Following treatment, PWIDs experienced good quality of life linking their increased wellness to their treatment. **Recommendation:** Basing on the findings from this study, I recommend that the government allocate Continued Funding and Adopt laws that give PWIDs equal access to social and economic services , MAT service providers should Provide training to service provider to provide better and ethical services and PWIDs promote awareness on their wellbeing and rehabilitation to lessen the stigma attached to drug use, these initiatives will further the treatment benefits so as to improve the effectiveness of the intervention reflected through improved quality of life.

157. Lipangala, M. (2024). Integration of HIV and non-communicable diseases Services among rural primary health care facilities in Mkuranga District council. Muhimbili University of Health and Allied Sciences.

ABSTRACT

Background: People living with HIV (PLHIV) have a greater chance of suffering from noncommunicable diseases (NCDs) such as diabetes mellitus (DM), cervical cancer and cardiovascular diseases, in part because of the longer life expectancy brought on by anti-retro viral treatment (ART). With HIV and NCDs intersecting, integrative approaches to manage chronic diseases are considered critical especially in low resource environments where the complexity of multi-morbid illnesses presents concerns for health systems. In Tanzania, despite efforts to integrate HIV and NCD services since 2014, challenges persist in the rural Primary health care facilities and anecdotal evidence suggests suboptimal implementation of these integrative services within these facilities. **Objective:** To explore factors affecting integration of HIV-NCD services among rural Primary health care facilities in Mkuranga district council. **Methodology:** A phenomenological qualitative research design was used to conduct in depth interviews across health care providers working at CTC and members from hospital management teams, where they were purposively selected across 3 rural primary health care (PHC) facilities that operated care and treatment clinics within Mkuranga district council. The collected data was transcribed, translated into English and then analyzed using thematic analysis. **Results**: In this study, three themes emerged which explained the factors that affect integration of HIV and NCD services at the care and treatment clinics. The findings revealed that limited availability of resources characterized by insufficient staffing at CTC, presence of financial constrain, limited availability of medical supplies and inadequate infrastructure at CTC have negatively affected the delivery of integrated HIV-NCD services. However, the findings further showed that the presence of enabling policies and guidelines in relation to integrated services and the awareness on non-communicable diseases among providers created a conducive working environment for the delivery of integrated HIV-NCD services. In addition, the findings reported a few

perceived benefits of integration including increased job satisfaction to the provider and improved quality of care to the patients and some perceived disadvantages of integration such as overloading the health care providers with work and causing delay while providing care. Lastly, this study revealed a few perceived strategies to improve integrated services which include among others increased number of staff and ensuring ongoing training to staff working at the CTC. **Conclusion and recommendation:** Integration benefits both patients and providers with presence of enabling policies and guidelines identified as critical in facilitating integrated HIVNCD care. However, lack of trained staff, limited financing, and substandard buildings was observed to hinder the delivery of integrated care at CTC. Presence of cultural beliefs and ignorance among community members regarding NCDs was also described to affect the provision of integrated services. As a recommendation, health facility management in collaboration with implementing partners should make targeted investment in areas such as capacity building, infrastructure development within the CTC so as to enhance service delivery and ensure successful integration of HIV and NCD services.

158. Lori, J.M. (2025). The Correlation Between Visual Prostate Symptom Score and The International Prostate Symptom Score in Grading Lower Urinary Tract Symptoms in BPH at Muhimbili National Hospital. Muhimbili University of Health and Allied Sciences.

ABSTRACT

Background: The prevalence of benign prostatic hyperplasia (BPH) varies by ethnicity, with aging men at higher risk. The Visual Prostate Symptom Score (VPSS) offers a user-friendly alternative to the International Prostate Symptom Score (IPSS), especially for elderly patients. While previous studies compare VPSS and IPSS, there's a gap in validating VPSS for use in Tanzania and its correlation with IPSS, warranting further investigation. **Objectives:** This study conducted a comparative analysis of IPSS and VPSS in Tanzanian patients, assessing LUTS and BPH severity before and after treatment at Muhimbili National Hospital's Urology Department. **Methodology:** This

longitudinal observational study at MNH in Dar es Salaam examined the correlation between VPSS and IPSS for grading LUTS in BPH patients aged 40 and above. Outpatients and inpatients with LUTS were included, employing a consecutive sampling approach. Participants completed Swahili versions of both the 7-question IPSS and the 4-pictogram VPSS. Data collection occurred pre-treatment and at a three-month follow-up to assess changes in correlation. Statistical analysis utilized SPSS version 27. **Results:** In a study of 137 BPH patients with LUTS, aged 62–76 (median 70), the median prostate volume decreased from 49.0mL pre-treatment to 35.0mL post-treatment. Most patients (94.2%) were literate in Swahili, with significant differences in completing IPSS based on literacy ($p = 0.042$), but no difference for VPSS ($p = 0.999$). Both IPSS and VPSS scores improved significantly post-treatment, showing strong correlations between them before ($r = 0.648$) and after treatment ($r = 0.732$), confirming their reliability in assessing LUTS severity. **Conclusion:** The study demonstrates the effectiveness of both IPSS and VPSS in evaluating LUTS severity in BPH patients, with VPSS being suitable for both literate and illiterate patients. Significant correlations between VPSS and IPSS before and after treatment suggest VPSS as a reliable tool for assessing symptom severity, prostate volume, and quality of life. Its adoption in routine clinical practice can enhance the management of BPH patients, improving symptom monitoring and treatment outcomes.

159. Lubuva, C.G. (2024). Formulation and in vitro evaluation of griseofulvin cream for treatment of tinea Pedis. Muhimbili university of health and Allied Sciences.

ABSTRACT

Background: Tinea pedis have been treated using Griseofulvin tablet as oral dosage form in part of Africa including Tanzania. In Ghana Griseofulvin was incorporated into shea-butter to make the drug spread easy to infected region of skin. The approach to seek formulation of griseofulvin cream in Tanzania is due to the rising need to reducing side effects induced by griseofulvin tablet, among the primary and secondary school children infected by tinea pedis when administered the drug orally. **Objective**: To formulate and

in vitro evaluate griseofulvin cream for treating Tinea pedis. **Material and method:** White vaseline from Caesar and Loretz GmbH; Polysorbate 80 (Tween 80) from Sigma Aldrich (Switzerland); Sorbitan oleate (Span 80) from Sigma (USA); distilled water q.s. and Griseofulvin powder was purchased and bought from North Korea, were used in formulation of cream. Toluene, diethyl ether for mobile phase, ethyl acetate for diluent were bought in Dar es salaam. Tests and analysis for rheological properties were determined using Kinexus rheometer (Malvern) at temperature of 25ºC, with a geometry spindle CP4/40 SR1454SS (KJ3100277), Potato agar, *Trichophyton rubrum*, and incubator from ITM-Muhas. Albino rats from school of Pharmacy-Muhas. Physical properties were observed and verified against specifications. pH was measured using electronic pH conductometer in which 1gm was diluted to 100mls of distilled water. Accelerated stability test for cream was done using stability chamber from day 0 to day90, then test performed using HPTLC. Antifungal activity tested against *Trichophyton rubrum* which causes tinea capitis in which Agar plate diffusion method was done using potato agar and activity studied for 5days. Well diameters were 15mm, cream weight was 100.2mg, control was pure cream. **Results:** Formulations 1,2 and 3 had desirable trends of rheological properties in term of viscometry, frequency sweep, three step shear rate, creep and recovery. Meanwhile formulation F4 had less desirable viscometry, thixotropic, creep and recovery properties. pH trends were stable, ranging from 5.9 to 7. Formulations were stable from day 0 to 90 under accelerated temperature conditions of 40ºC± 5ºC and humidity conditions of 75%±5%. The assay trend showed a range from 100.62% on day 0 to 99.68% on day 90. Antifungal activity of Griseofulvin cream had shown a very strong activity against *Trichophyton rubrum* with zone of inhibition of 37.5mm. Irritation effect of the cream was very slight with an average edema and erythema score of 1.17. **Conclusion and recommendations:** This was the first formulation of a semisolid griseofulvin product in Tanzania, focusing on essential performance parameters such as rheological and physical properties, pH, and stability behavior. The first three formulations demonstrated desirable rheological properties, with formulation F3 showing the most favorable trend. The pH values adhered to specifications ranging from 5 to 8, and all formulations exhibited a stable shelf-life trend.

Formulation showed strong antifungal activity against Tinea pedis. **Keywords:** *Griseofulvin cream, Rheological properties, Hydrophilic lipophilic balance value, physical appearance, pH, Antifungal activity*

160. Lucas, W. (2024). Perceptions of the female condoms use as a contraceptive method among women attending postnatal care at Makole health center in Dodoma, Muhimbili university of health and Allied Sciences.

ABSTRACT

Background*:* The use of contraception is critical for reproductive health, allowing individuals to manage childbearing effectively, thus enhancing women's well-being. Despite global advancements in contraceptive methods, the prevalence of modern contraceptive use in sub-Saharan Africa remains low, therefore high rates of unintended pregnancies and maternal deaths. **Objective:** To explore perceived attitudes, social norms and behavioral control on the use of female condoms as a contraceptive method among women aged 18-49 attending postnatal care. **Methods:** This cross-sectional, exploratory study employed a case study design to gather data at a specific point in time. A purposive sampling was used to select study participants. The in-depth interview guide was used to collect data. Interviews were digitally recorded and transcribed verbatim. The thematic analysis by Cresswell et al method was used to analyze data. **Findings:** The study illuminated various perceptions surrounding the use of female condoms as a contraceptive method. Participants expressed a range of attitudes shaped by their knowledge and awareness, which significantly influenced their perceptions of female condoms. Many conveyed positive perceptions, often linked to an understanding of the benefits, such as dual protection and the empowerment of women in managing their sexual health. Additionally, social norms influenced their perceptions, with insights drawn from family, partners, peers, and religious communities shaping their views on female condoms. Overall, addressing these diverse perceptions is essential for effectively promoting the use of female condoms. **Conclusion and recommendation**: This study reveals that women attending postnatal care at Makole Health Center in Dodoma City

have mixed perceptions about female condom use, shaped by attitudes, social norms, and perceived behavioral control. While some women recognize its benefits, barriers such as cultural stigma and misinformation hinder broader adoption. Addressing these challenges through targeted educational interventions and improved access could empower women and enhance female condom utilization.

161. Luhondo, V. (2024). Adherence to infection prevention and control practices among healthcare workers in Bukoba regional referral hospital. Muhimbili University of Health and Allied Sciences.

ABSTRACT

Background: Infection Prevention and Control (IPC) is essential in safeguarding patients and healthcare workers from Hospital-Acquired Infections (HAIs), a significant global health challenge. Non-compliance with IPC standards leads to increased morbidity, mortality, extended hospital stays, and higher healthcare costs, particularly in low- and middle-income countries where HAI rates are high. Evaluating adherence to these practices safeguards healthcare workers, patients, and the public by reducing hospital-acquired infections. **Aim:** This study aimed to assess adherence to infection prevention and control practices among healthcare workers at Bukoba Regional Referral Hospital. **Methods and Materials:** A multimethod study design was adopted with a cross-sectional design for the quantitative part and a phenomenological design for the qualitative sub-component. The quantitative approach interviewed 150 healthcare workers using stratified sampling by assessing socio-demographic characteristics and proportional of adherence, while the qualitative approach purposely explored health facility factors experienced by 6 heads of units. Data were collected using questionnaires, observational checklists, and in-depth interview guides. SPSS version 20 was used for quantitative analysis, presenting results with odds ratios, adjusted odds ratios, and 95% confidence intervals. Thematic analysis was applied to qualitative data, organized using NVivo 12.0. **Results:** The overall proportion of adherence to infection prevention and control was moderate (67%). Factors significantly associated with adherence included

having a bachelor's degree (COR 0.27 [95%CI 0.07, 0.82]), diploma (AOR 0.27 [95%CI 0.09, 1.78]), laboratory qualifications (AOR 8.50 [95%CI 1.87, 47.0]), 6-8 years of experience (AOR 7.6 [95%CI 2.35, 33.90]), and over 9 years of experience (AOR 2.59 [95%CI 0.99, 7.11]). Key informants identified IPC supplies, guidelines, staff training and education, staff commitment, and the presence of an IPC committee and supportive supervision as influencing adherence. **Conclusion:** The study identified moderate (67%) adherence to IPC practices at Bukoba Regional Referral Hospital. Key factors influencing adherence were educational qualifications and professional experience, with laboratory personnel showing the highest compliance. Despite available IPC supplies, occasional stock-outs, heavy workloads, and inconsistent practices negatively impacted adherence. To improve IPC adherence, targeted interventions such as regular staff training, consistent supply chains, and stronger IPC committee oversight are essential. Addressing both individual factors (education, experience) and structural challenges (supplies, workloads) is crucial for sustained improvements in IPC compliance. **Keywords:** Healthcare workers, Adherence, Infection, Prevention and Control, Practices, Bukoba Regional, Referral Hospital

162. Luhuti, K. (2024). Patients' satisfaction and associated factors on gastrointestinal endoscopy services at Muhimbili National Hospital in Dar es Salaam, Tanzania. Muhimbili University of Health and Allied Sciences.

ABSTRACT

Background: Patient satisfaction is a crucial component for assessment of healthcare quality and providers performance which also directly influences patient outcomes. Endoscopy services play a vital role in diagnosing and treating various gastrointestinal conditions. Despite its significance, limited research has been conducted to evaluate patient satisfaction with endoscopy services in Tanzania and beyond. **Objective**; To assess patient satisfaction with endoscopy services and associated factors at Muhimbili National Hospital (MNH). **Methods**: An Analytical cross-sectional study involved patients aged 18 years and above who undergone endoscopy procedures at MNH between

April 2024 and May 2024 was conducted. Eligible participants were recruited systematically from the endoscopy unit. A structured questionnaire was used to collect socio-demographic information and satisfaction with various aspects of endoscopy services (e.g., waiting time, communication, facilities, post-procedure care). Data was analyzed using descriptive statistics and regression analysis using Statistical package for social sciences (SPSS) Version 23 software. **Results**: A total of 387 patients participated in the study with nearly a third (28.2%) aged 30-39 years and 54% were female. The overall satisfaction rate for endoscopy services was 68.2%, with majority being satisfied with staff courtesy (98.2%) and unit cleanliness (96.1%). Factors significantly associated with satisfaction included occupational status (self-employed: aPR 0.82, 95% CI 0.68-0.99, P=0.040), wealth index (lower-middle: aPR 1.35, 95% CI 1.14-1.59, P<0.001), type of endoscopy procedure (colonoscopy: aPR 1.35, 95% CI 1.19-1.53, P<0.001) and patient's health status(good: aPR 1.26, 95% CI 1.08-1.47, P=0.003), **Conclusion:** Patients generally express satisfaction with GI endoscopy services at Muhimbili National Hospital-Upanga. Significant predictors of patient satisfaction include, occupational and economic status, endoscopy procedure type, and patient health status.

163. Lukoo, S. (2024). Diagnostic accuracy of triphasic abdominal computed tomographic in the detection of esophageal varices taking esophagogastroduodenoscopy as a gold standard among patients attended at Muhimbili National Hospital, Muhimbili university of health and Allied Science. Muhimbili university of health and Allied Sciences.

ABSTRACT

Background: Upper gastrointestinal bleeding (UGIB) is a life-threatening emergency resulting in considerable morbidity and mortality with esophageal varices being the most common cause, followed by peptic ulcer disease. Esophagogastroduodenoscopy is the gold standard in diagnosing and managing bleeding esophageal varices. Triphasic abdominal Computed Tomographic is an alternative non-invasive diagnostic modality for detecting esophageal varices but its accuracy has been not evaluated. **Objectives:** The

study aimed to determine the diagnostic accuracy of Triphasic abdominal Computed Tomography in detecting esophageal varices by using oesophagoduodenoscopy as a gold standard among patients attended at Muhimbili National Hospital. **Methodology:** A retrospective cross-sectional study was conducted at Muhimbili National Hospital. Medical records of 200 patients with UGIB were conveniently selected and included in the study between January 2021 and May 2023. A structured data-collection tool was used, and then analysis was done with Statistical Package for Social Sciences (SPSS) version 26. Continuous data were summarized using measures of central tendency with their respective measures of dispersion. Categorical data were presented as frequency and percentage (%), and compared by Pearson's chi-square test. Univariate and multivariate logistic analysis were used to determine the associations between independent and dependent categorical variables. The receiver operating characteristic (ROC) curves were performed to evaluate the diagnostic performance by calculating the Area under curve (AUC), sensitivity, and specificity. They were examined using a summarized Pearson Chi-square of <0.05 and were considered statistically significant. **Results:** The study included 200 upper gastrointestinal bleeding patients who attended MNH with a mean age of 49.4 years and a standard deviation of 15.85. There was male predominance with a male-to-female ratio of 1.5:1. Esophageal varices were significantly associated with those aged less than 40 years (72.5%, vs.44.3, P=0.001). The predominantly significant symptoms were anemia (91.7% vs 8.3, P=0.001), melena (85.2 vs 14.8 p=0.001), jaundice (67.7%, vs 42.7% P=0.001) and hematemesis (76.9 vs 23.1, P=0.001). Hepatic schistosomiasis, viral hepatitis B, alcohol-related liver disease, and non-alcoholic fatty liver disease were significantly associated with an increased risk of esophageal varices. In the Esophagogastroduodenoscopy, esophageal varices (54%) and gastritis (39.5%) were the most common findings. Furthermore, triphasic abdominal CT detected esophageal varices in 53.5% of patients and other associated extraluminal pathology like splenic collateral (51.5%) ascites (36%), and periportal fibrosis (32%). Area under the curve (AUC) of triphasic abdominal Computed tomography in the detection of esophageal varices is 0.975 (95%CI: 0.95-1, P=0.000 with a sensitivity of 97.2% (95%CI:94.9%-99.5%), specificity of 97.8%(95%CI:95.8%-99.8%),positive likelihood ratio (PLR) of

44.1(95%CI:32.77-62.94), negative likelihood ratio (NLR) of 0.029(95%CI:0.0018-0.043), positive predictive value (PPV) of 98.1% (95%CI:96.2%-100%), and negative predictive value (NPV) of 96.8%(95%CI:94.4%-99.2%) **Conclusion:** The triphasic abdominal CT can be used as an alternative diagnostic modality in the detection of esophageal varices as well as a screening test for esophageal varices especially in resource limited setting. Triphasic abdominal CT also enables extra-luminal pathology evaluation that impacts management **Recommendation:** In healthcare facilities where CT is available, triphasic abdominal CT may be considered as an alternative in the diagnosis of esophageal varices in upper gastrointestinal bleeding patients as well as a screening tool for esophageal varices and other associated complications due to the high diagnostic accuracy established in the study. Further, prospective multi-center studies of triphasic abdominal CT for detection of esophageal varices are needed for the findings to be generalized to the general population. **Keywords:** Upper gastrointestinal bleeding, Esophageal varices, Triphasic abdominal CT and Oesophagoduodenoscopy.

164. Lumato, P.V. (2024). Patterns and factors associated with potentially inappropriate medication to elderly patients presenting to Muhimbili National Hospital – Emergency Department. Muhimbili University of Health and Allied Sciences.

ABSTRACT

Background: Older adults in Emergency Departments (EDs) often have complex medical demand due to the presence of multiple chronic illnesses, this has led to the use of multiple medication (polypharmacy), causing them to be vulnerable to Potentially Inappropriate Medications, hospitalization, multiple emergency department visits and adverse events. **Objectives**: To determine the pattern and factors associated with potentially inappropriate medication given to older patients aged 65 years and above who present to Muhimbili National Hospital Emergency Department. **Methods**: This was a retrospective cross-sectional study which obtained data of patients aged ≥65 years who presented from January 2024 to June 2024. Data was extracted from the Wellsoft

Electronic Health Record System (EHRS) to Case Report Form (CRF) in Redcap on demographic and clinical data, medication data. Potentially Inappropriate Medications (PIMs) were identified by using Screening Tool of Older Persons Potentially Inappropriate Prescription/ Screening Tool to Alert to Right Treatment (STOPP/START) criteria**.** Data was then represented by frequencies and mean. Univariate analysis to find association between patient characteristics and PIMs was done. Multivariate analysis to identify independent predictors of PIMs employed by importing all variables with P value less than 0.05 considered significant. **Results:** A total of 467 elderly patients aged ≥65 years participated in this study, with the mean age of 73.5 years, of which 278 (59.5%) were males. The proportion of PIM use according to STOPP/START criteria version three was 51.6%. Most common PIM pattern were analgesics, the Non-Steroidal Anti-Inflammatory Drugs (NSAIDS) 13.5%, and the gastrointestinal medications Proton Pump Inhibitors (PPIs) 11.5% as identified by STOPP/START criteria. The factors which were independently associated with PIMs after multivariate analysis were night shifts attending doctor, specialist and registrar, The increase in number of complain above 2 and large number of diagnoses which were statistically significant. **Conclusion:** The study highlights the high proportion of potentially inappropriate medications in elderly patients at emergency departments, with night shift, specialist and registrar, increasing in number of complain and diagnosis being the main factors associated with PIMs. Therefore, emphasizing the need for improved prescribing practices, including electronic prescription systems and regular medication review.

165. Lumbugu, G. (2024). Prevalence of spontaneous abortion and associated factors among healthcare workers at Muhimbili national hospital in Dar es salaam, Tanzania. Muhimbili University of Health and Allied Sciences.

ABSTRACT

Background: Healthcare profession is one of the largest and significant labour-forces in the world, with more than 75% of female of child bearing age. Healthcare professionals handling potentially harmful chemicals may be more vulnerable to unfavorable health

consequences including reproductive health issues such as spontaneous abortion. Spontaneous abortion can be caused by multiple factors which include genetic and non-genetic, the major genetic cause is chromosomal defects while non-genetic may include environmental and occupational factors however, other cases have unknown causes. Occupational health issues in healthcare landscape are notably under prioritized concern in Tanzania. **Objective:** To determine the prevalence of spontaneous abortion and associated factors among healthcare workers at Muhimbili National Hospital in Dar es Salaam, Tanzania. **Materials and Methods:** A cross-sectional study involving 390 female workers was conducted at Muhimbili National Hospital. Self-administered questionnaires were used to collect information. Data management and analyses utilized STATA version 17. Data were coded for clear variable identification. Double data entry was performed to ensure data accuracy. Missing values and inconsistencies were identified and addressed to maintain data quality. Descriptive statistics summarized data. Means and medians for continuous variables and frequencies for categorical variables were computed. The prevalence of spontaneous abortion was derived from the number of reported cases divided by the total number of participants. Chi-square and Fisher's tests were run to assess the relationships between age, previous abortion, passive smoking, alcohol consumption, income, education level, gravidity, birth interval, previous pregnancy complication, maternal comorbidities and spontaneous abortion. Ergonomic factors, exposure to chemicals, violence and stress were also evaluated by using similar statistical tests. Modified Poisson regression analysis determined the independent effects of these variables adjusting for age, passive smoking, alcohol consumption and comorbidities to accurately estimate the relationships between the variables and spontaneous abortion, with significance established at a p-value below 0.05. **Results:** The results from this study reveal that among the 390 healthcare workers at Muhimbili National Hospital, 52 workers (13.33%) experienced spontaneous abortion. There is positive association between comorbidities and spontaneous abortion with PR of 1.95 (95% CI: 1.14-3.33), years of experience and spontaneous abortion with PR of 1.86 (95% CI: 1.12-3.07), gravidity and spontaneous abortion with PR of 4.06 (95% CI: 2.47-6.70) for those having 4-5 pregnancies compared to those with 1-3 also, there is positive

association between access to personal protective equipment (PPE) and spontaneous abortion with PR of 1.86 (95% CI: 1.05-3.20).There is negative association between parity and spontaneous abortion with PR of 0.28 (95% CI: 0.13-0.59) for participants having 1-5 children compared to those with no children. **Conclusion and Recommendation:** The study revealed a 13.33% prevalence of spontaneous abortion among healthcare workers at Muhimbili National Hospital in Dar es Salaam. Key predictors of spontaneous abortion were comorbidities, years of work experience, gravidity, parity and access to PPE. To address these factors hospital administrators are advised to conduct comprehensive health screening and regular check-ups for healthcare workers, develop education programs to raise awareness about identified risk factors, modify workplace policies to accommodate specific needs of pregnant healthcare workers and researchers should conduct further research to explore the underlying causes of unexpected association between PPE and spontaneous abortion.

166. Lutainulwa, E.W. (2024). Factors influencing hand hygiene practices among nurse's post COVID-19 era at Regional Referral Hospitals in Dar es Salaam. Muhimbili University of Health and Allied Sciences.

ABSTRACT

Background: Globally, the burden of infectious diseases is significant and the recent impact of COVID-19 underscored the critical importance of hand hygiene practices of healthcare workers who are the fore front of patient care. Ensuring compliance to hand hygiene practices has multidimensional significance including overall infection prevention control, prevention of antibiotics overuse leading to AMR and contribution to ongoing safety of healthcare workers and patients. Hence, the urgent need to understand the current hand hygiene practices after COVID-19 era. **Methodology**: Analytical cross-sectional study design was employed. A pre-tested structured questionnaire was interviewed to 389 nurses and observational checklist used to spot check availability of infrastructures in May 2024. Proportionate stratified sampling method was used to select study participants. Data was collected using Kobo collect app and statistical analysis

done using STATA version 14.0. Modified Poisson regression was used. **Results:** The study recruited 389 nurses whose mean age was 40.5±9.2 years and a female predominance was observed. Hand hygiene practices among nurses was reported at 79.9%, with higher compliance observed in male nurses aPR =1.16 (95%CI 1.04-1.29), over 45 years old aPR=1.32 (95%CI 1.10-1.57), in late career stages with over 20 years of experience aPR=1.13 (95%CI 1.01-2.31), having good knowledge and a positive attitude towards hand hygiene aPR=1.88 (95%CI 1.34-2.65) and aPR=1.37 (95%CI 1.04-2.92). 6 in 10 nurses received hand hygiene training in the past three years. Although essential infrastructures like sinks, running water, and soap were readily available in all hospitals, the inconvenient layout of sinks, non-functional sanitizer dispensers, and inconsistent availability of hand sanitizer and drying materials potentially hindered frequent hand hygiene practices. **Conclusion and recommendations:** Hand hygiene practice was reported to be good among nurses in spite of limitations in alcohol-based hand sanitizer and hand drying materials. More studies to increase hand hygiene practices needed, targeted training for younger and early career nurses, infrastructure improvements to encourage hand hygiene practices at hospital environments.

167. Luvanga, G.M. (2024). Classification of perinatal deaths according to the international classification of diseases for perinatal mortality (and-pm) at Muhimbili National Hospital. Muhimbili University of Health and Allied Sciences.

ABSTRACT

Background: The International Classification of Diseases for Perinatal Mortality (ICD PM) classifies perinatal deaths according to the timing, underlying cause, and contributing maternal conditions. This allows quantification, proper assignment of causes, and monitoring of perinatal deaths within and between facilities, as well as monitoring the quality of pregnancy and intrapartum care. Objective: To classify perinatal deaths according to ICD-PM and factors associated with the timing of perinatal deaths at Muhimbili National Hospital (MNH). Materials and **Methods:** Cross-sectional study conducted at MNH. All perinatal deaths that occurred between October 2023 and

January 2024 were identified. A structured questionnaire was used to extract data. Two independent teams with knowledge of perinatal death audits reviewed the abstracted information. Data was entered and analyzed by using SPSS version 24. **Results:** Neonatal deaths were the most prevalent timing of perinatal deaths (62%), mostly due to prematurity and low birth weight, and mostly occurred in mothers without underlying medical conditions. Antepartum deaths were the second most prevalent timing (29.4%), mostly due to antepartum hypoxia, from mothers with hypertensive disorders of pregnancy (HDP), Intrapartum deaths were the least prevalent timing (8.6%) mainly due to acute intrapartum events from mothers with HDP. Hypertensive disorders of pregnancy (aOR=5.03, 95% CI 2.60 – 10.01), Multiple pregnancy (aOR=0.33, 95% CI 0.12-0.82), gestational age at delivery (aOR=5.97, 95% CI 2.14 -17.7) and mode of delivery (aOR=0.41, 95% CI 0.20 -0.81 were significantly associated with the timing of perinatal deaths**. Conclusion:** Six out of ten perinatal deaths occurred during the early neonatal period. Targeted interventions to screen, detect, and provide early management of maternal medical conditions, mainly HDP, and preterm birth, as well as to improve antepartum, intrapartum, and neonatal care, have the potential to reduce the burden of perinatal deaths.

168. Luyagwa, H. (2024). Satisfaction with ocular prosthetic devices and associated factors among adult patients who underwent eye removal surgery at selected tertiary eye units in Tanzania. Muhimbili University of Health and Allied sciences.

ABSTRACT

Background: Satisfaction is the pleasant feeling that the person gets when he/she receives something. Satisfaction with ocular prosthesis influence compliance on wearing prosthesis and it is related to different factors such as socio-demographic factors, prosthetic and surgical characteristics. Satisfaction with ocular prosthetic ranges from 71.8% to 95.4% and 14% to 53% in developed and developing countries respectively. In our locality the level of satisfaction among patients who are wearing ocular prosthesis

was not known. **Aim:** The study was conducted to determine the level of satisfaction of patients with ocular prosthesis and its associated factors among adult patients who underwent eye removal surgery at selected tertiary eye unit in Tanzania. **Methodology:** A hospital based analytical cross-sectional study was conducted at two tertiary eye units in Tanzania between June and December 2023. An interviewer administered questionnaire was used to collect data on 140 participants. Statistical package for social science version 27 was used for data analysis. Multivariate poisson logistic regression was used to test for the strength of association between variables and the p value <0.05 was considered statistically significant. **Results:** About 52.1% of study participants were males. Half of the study participants (50.0%) were aged between 36-60years with a mean age of 49.4±15.1years. Almost half of participants had primary education (45.7%) and (41.1%) were self-employed. Majority (74.1%) of participants were satisfied with the ocular prosthesis. The mean level of satisfaction was 1.75±0.59. Absence of symblepharon (aOR=1.59, 95% CI=1.27-1.99, p value=0.001), normal size of prosthesis (aOR=1.59, 95% CI=1.27-1.99, p value=0.001) , evisceration (aOR=1.84, 95% CI: 0.41-0.63, p-value=0.009) and custom ocular prosthesis (aOR=1.14, 95% CI: 3.08-8.56, p-value=0.044)were significantly associated with ocular prosthesis satisfaction. **Conclusion:** Three-quarters of study participants were satisfied with ocular prostheses. Absence of socket complication was statistically significant associated with ocular prosthesis satisfaction. Having enucleation, fitted with small and large size of stock eye ocular prosthesis was less likely to be associated with ocular prosthesis satisfaction. **Recommendation:** Facilities to insure availability of custom-made ocular prosthesis.

169. Lwaho, S. (2024). Work-related musculoskeletal disorders in social security workers: contributing factors and control measures in Dar es salaam. Muhimbili University of Health and Allied Sciences.

ABSTRACT

Background: Work-Related Musculoskeletal disorders (MSDs) are a significant public health problem to individuals engaged in tasks involving repetitive upper limb

movements and extended computer use including those working in National Social Security Fund (NSSF). However, there is limited information in context of Tanzania. Therefore, this study aimed to address this knowledge gap, focusing on the magnitude and risk factors of MSDs among NSSF office workers in Dar es salaam. **Objective:** To assess the work-related musculoskeletal disorders and contributing risk factors among social security workers in Dar es salaam region. **Materials and Methods:** The study used cross-sectional study design included 300 social security workers who are employed and working at NSSF offices based in Dar es salaam region. Data was collected by using structured Nordic questionnaire to determine prevalence and factors contributing to MSDs while checklist used for identifying preventive measure and factors contributing to MSDs. A modified Poisson models of analysis was used to assess factors contributing to MSDs. **Results:** The participant response rate was 100%. The overall prevalence of MSDs (participant reported one of any musculoskeletal disorders in previous 12 months) was 77.7%. The significant risk factors for MSDs were; Lower education level, type of the job categories, level of activity, awkward posture, and lack of ergonomic training. Furthermore, more than three quarter of social security workers were using seat with adjustable height and back and had working surfaces with adequate space, However Less than half had not received the ergonomic trainings. **Conclusions and Recommendations:** The results of this study reveal a high prevalence of MSDs among social security workers in Dar es salaam. These findings serve as crucial alert for the employers and employees to develop and review the existing ergonomic interventions.

170. Madibi, A.J. (2024). Co-inheritance of beta thalassemia and sickle cell anemia among individuals with sickle cell disease in Dar es Salaam, Tanzania. Muhimbili University of Health and Allied Sciences.

ABSTRACT

Background: Co-inheritance of sickle cell and beta thalassemia is a chronic condition affecting red blood cells, involving abnormal hemoglobin production and reduced beta globin chain synthesis. Globally, 5-7% of the general population experience significant

hemoglobin variations, like sickle- cell anemia. Early detection is crucial for reducing mortality and morbidity rates. Despite its prevalence, co-inheritance of sickle cell disease (SCD) and beta-thalassemia lacks data in our population. This study aims to address this gap, improving SCD and beta-thalassemia management. Beyond clinical benefits, findings may advance target gene therapy and precision medicine by informing personalized therapeutic strategies tailored to our population's unique genetic makeup. **Methods:** This was a nested study in a larger study with ethical clearance granted from MuhimbiliUniversity with Reference No. DA.282/298/01.C/1917 involving SCD patients aged 5 years and above. The study utilized data and DNA samples that were collected as part of the larger study. The concentration and quality of DNA were determined using Nano drop and Qubit 3.0 fluoremeter, respectively. Targeted sequencing was done by using Oxford Nano pore Technology (MinION mk 1c). Raw sequencing data was analyzed by using a bioinformatics pipeline. **Results:** In a nested study within a larger cohort of 108 sickle cell disease (SCD) patients, we focused on 21 individuals with elevated HbA2 levels (>5.0%) and specific red blood indices (MCV <79 fl, MCH <27 pg). Our findings revealed start-loss and frameshift mutations associated with beta-thalassemia, with a 12% mutation frequency among the selected patients. Notably, 13 individuals co-inherited beta-thalassemia mutations, highlighting a significant occurrence. Additionally, we discovered a novel c.T28C.S10P variant of unknown significance, previously unreported. This study underscores the genetic complexity in SCD, especially with co-inherited beta-thalassemia mutations. **Conclusion:** Genetic testing is vital for identifying the co-inheritance of sickle cell disease (SCD) and beta-thalassemia, as it enables precise diagnosis and personalized treatment plans for affected individuals. By detecting these co-inherited conditions, healthcare providers can anticipate and manage complications more effectively.

171. Magesa, B.P. (2024) evaluating the implementation efficiency of antimicrobial stewardship programs in reducing the burden of antimicrobial resistance at Dar es Salaam regional referral hospitals. Muhimbili University of Health and Allied Sciences.

ABSTRACT

Background: Antimicrobial resistance (AMR) is a global public health concern affecting hospital and community-acquired infections. It increases the risk of disease spread, severe illness, and death. Multidrug-resistant, extensively drug-resistant, and pan-drug resistant bacteria complicate infection treatment. Antimicrobial Stewardship Programs (ASP) aim to curb drug resistance by enhancing the appropriate use of antimicrobials. Despite implementation in Tanzanian hospitals, the AMR burden remains high. This study aims to evaluate the efficiency of ASPs and their impact on treating infections. **Objectives:** To evaluate the implementation efficiency of antimicrobial stewardship programs in reducing the burden of AMR at Dar es Salaam Regional Referral Hospitals. **Methodology:** This study utilized an exploratory qualitative case study design to investigate experiences and practices across three regional referral hospitals in Dar es Salaam. 11 participants were purposively selected based on their relevance to the research objectives. Data were collected through semi-structured key informant interviews and supplemented by document reviews to gain a comprehensive understanding of each case. Interviews were audio-recorded, transcribed verbatim, and analyzed using Braun and Clarke's (2006) thematic analysis method. This systematic approach involved coding and identifying patterns across the data, enabling the extraction of meaningful themes to provide insights into the studied phenomena**. Results:** The findings of this study highlighted four themes: (1) Adherence to ASP policies and Guidelines, (2) Implementation of ASP in improving healthcare outcomes, (3) Institutional support and facilitators of ASP, and (4) Challenges and Barriers in Program Implementation. Implementing Antimicrobial Stewardship Programs (ASP) in these RRHs to some extent improved adherence to clinical guidelines and reduced prescription errors. Enhanced diagnostic accuracy and targeted empirical treatments led to better patient outcomes. Success was driven by supportive leadership and comprehensive training, though challenges like funding limitations, high workloads, and coordination issues remained**. Conclusion and recommendation:** The implementation of Antibiotics for Prevention (ASP) at Temeke, Mananyamala, and Amana hospitals significantly

improved antibiotic use and patient care, despite challenges like funding, workloads, and coordination, emphasizing the need for effective leadership and training. The National AMR multi-sectoral Coordination Committee should make efforts to prioritize management while integrating ASP with other programs like IPC. In collaboration with other implementing partners, the Ministry of Health should offer financial support to healthcare facilities to strengthen ASP efforts and interventions.

172. Magorwa, S.M. (2024). Evaluation of the implementation of integrated management of childhood illness (imci) intervention in childhood diarrhoea in Kigoma municipality. Muhimbili University of Health and Allied Sciences.

ABSTRACT

Background: The Integrated management of child hood illness (IMCI), launched by WHO in 1992 and adopted by Tanzania in 1996, aims to reduce child mortality. Kigoma Ujiji Municipality struggles with high child mortality and low vaccination rates. Less than 40% of children with respiratory or diarrheal symptoms receive proper care, indicating the need for better child care intervention specifically IMCI intervention implementation. **Objective:** To assess the implementation of the IMCI intervention in childhood diarrhoea in the unique context of Kigoma Municipality. **Methods:** The study used a process evaluation with an explorative cross-sectional design, incorporating both quantitative and qualitative methods. Data collection included in-depth interviews, questionnaires, focus group discussions (FGDs), observations, and health facility mapping. Participants were selected using probability sampling for 8 health facilities and 56 healthcare providers, while convenient sampling was used for 8 FGDs and 19 key informant interviews (KIIs). Thematic analysis was applied to qualitative data, and descriptive analysis to quantitative data, with the research conducted in June 2024. **Results:** Younger healthcare workers and those with over 21 years of experience had higher confidence, while those with 11-20 years of experience were less motivated, and female providers showed better engagement than males. IMCI implementation faced challenges due to insufficient funding, poor supervision, inadequate training (only 30.4%

received IMCI training), shortages of medicine, and weak emergency preparedness, especially in remote areas. Community participation was valued but hindered by transportation costs, cultural influences, and poverty, while government support through free healthcare policies was crucial for improving outcomes. **Conclusion:** The IMCI evaluation in Kigoma shows younger female healthcare workers were more confident, while mid-career staff and male providers need targeted training. Success depends on resources, government support, and addressing training gaps and cultural factors. **Recommendation:** The regional and district governments, along with stakeholders, should target mid-career healthcare workers for confidence-building training and encourage greater male participation in IMCI programs. Additional training for community health workers, leveraging nurses as key implementers, improving resource allocation, and promoting community health education are essential to enhance IMCI effectiveness and sustainability**.**

173. Mahfoudh, A. (2024) Clinical characteristics, computed tomography angiography patterns, and associated complications of intracranial aneurysms among patients attending Muhimbili Orthopedic Institute. Muhimbili University of Health and Allied Sciences.

ABSTRACT

Background: Intracranial aneurysms, characterized by localized dilatation of the arterial wall in the brain, affect approximately 3% of the population and are a significant cause of non-traumatic subarachnoid hemorrhage. (1,2) This study, conducted at the Muhimbili Orthopedic Institute (MOI) in Tanzania, explored cerebral aneurysm patterns using computed tomography angiography (CTA), filling a critical gap in localized research. Findings revealed that aneurysms were more common in females (73.3%) and in those aged 50 and above (70%). Hypertension emerged as a key risk factor, present in 69.2% of cases. Most aneurysms were solitary (89.1%) and saccular (76.1%), with medium-sized aneurysms (5-10 mm) being the most prevalent. The anterior communicating artery (AComA) was the primary site, also associated with a heightened risk of rupture,

especially as 47.9% of cases involved subarachnoid hemorrhage. This research highlights a need for targeted prevention strategies and tailored treatment protocols for patients at MOI, improving healthcare outcomes in Tanzania. As the first comprehensive study of its kind in this region, it sets a precedent for future research that can enhance patient management, reduce complications, and establish more precise treatment approaches for cerebral aneurysms in similar healthcare contexts. **Objective:** The study aimed to determine the clinical characteristics, radiological patterns, and associated complications of intracranial aneurysms among patients attending MOI with a diagnosis of intracranial aneurysm by CT angiography between January 2023 and April 2024. **Methodology:** The study was a hospital-based retrospective cross-sectional study conducted at Muhimbili Orthopedic Institute. It was done by determining clinical presentation, the radiological patterns of intracranial aneurysms by using CTA, and determining the factors associated with having an aneurysm and a ruptured aneurysm. The sample was 71 patients 18 years and above who were suspected of having an ICA referred for CTA. A checklist was used to collect the demographics and clinical presentation of the study population. vi The CTA images were read, and findings were saved for analysis. In this study, STATA version 27 was used for analysis**. Results:** The study recruited a total of 71 patients; among these patients, 63% were females. The age range was between 20 and 80 years, with a mean of 52 years. Most of the patients were between 50 and 59 years. Most (73.2%) had hypertension. Forty-six (64.78%) had intracranial aneurysms, and the majority (73.3%) were female (p = 0.047). Solitary (89.1%), and saccular aneurysms (76.1%) were more common. The anterior communicating artery (ACOM) was the most common site for aneurysms (37%). A significant correlation was found between female gender and having an aneurysm (p-value = 0.047). Also, Acom was the most common location with ruptured aneurysm compared to the cavernous segment of ICA, which showed non-rupturing despite being large. **Conclusion:** The study showed a significant predominance of females in the population with intracranial aneurysms (ICAs), emphasizing the necessity to investigate gender specific risk factors. Furthermore, the specific risk associated with the anterior communicating artery (ACOM) aneurysms, which are prone to rupture and cause subarachnoid hemorrhage despite their small size, underscores the

importance of site-specific considerations in the risk assessment and management of ICAs. These findings are crucial for refining clinical practices and guiding future research on the epidemiology and treatment of intracranial aneurysms**. Recommendation:** It is recommended to develop targeted screening programs for high-risk groups, particularly older adults and females, to detect intracranial aneurysms (ICAs) early. Given the higher rupture risk of small anterior communicating artery aneurysms, screening and monitoring should be prioritized in these cases.

174. Majura S. B, (2024). Nutrition status and associated dietary diversity factors among adolescents living with HIV in Ilala Municipal Council, Dar es salaam. Muhimbili university of health and Allied Sciences.

ABSTRACT

Background: The global burden of HIV/AIDS significantly impacts vulnerable populations, particularly adolescents. Adolescents living with HIV continue to face significant nutritional challenges that compromise their treatment. These challenges are often due to low adherence to ART, influenced psychosocial factors such as fear of stigmatization, lack of social support and mental health issues such as depression and anxiety. In Tanzania, undernutrition emerges as the predominant challenge among adolescents with HIV, but comprehensive data on their nutritional status is limited. **Objective:** To assess the nutritional status and associated dietary diversity factors among adolescents living with HIV in Ilala Municipal Council, Dar es Salaam.**Materials and Methods:** A hospital based, cross-sectional descriptive study was conducted among adolescents living with HIV attending CTCs at Amana Regional Referral Hospital and Mnazi Mmoja Health Center. Sociodemographic, clinical and dietary diversity information were collected through face-to-face interviews using a structured questionnaire. Anthropometric measurements were conducted, and z-scores were computed based on the WHO 2007 Growth Reference Charts. Data analysis was done using Stata Version-17. Descriptive, chi-square tests, pearson's correlation, and multivariate regression analysis were applied. A p-value of <0.05 was considered

statistically significant. **Results:** A total of 132 HIV positive adolescents were recruited, majority of the participants were below 15 years of age. Malnutrition was prevalent, with 31.1% showing stunting, 25.8% underweight and 15.9% wasting. Significantly associated factors included food insecurity, low feeding frequency, advanced HIV stage and history of opportunistic infections. Dietary diversity was low, with 84.8% of the participants having inadequate dietary diversity. Key predators of poor dietary diversity were meal skipping (AOR = 12.2, P < 0.001, 95% CI: 3.5 - 41.7), and snacking (AOR = 5.0, P = 0.007, 95% CI: 1.6 – 16.4). Conversely, the majority of participants 62.1% reported better adherence to their ART regimen. Contributing factors were adequate food intake and dietary patterns, as well as use of medication reminders or schedules. Inadequate food intake and missing medication doses due to side effects were associated with poor adherence. **Conclusion:** This study reveals the critical nutritional and health challenges faced by HIV-positive adolescents, particularly malnutrition and poor dietary diversity. Factors such as food insecurity and low feeding frequency highlight the need for comprehensive strategies to improve their well-being. Enhancing dietary diversity is vital, as it affects physical health and supports ART adherence. The findings underscore the importance of addressing barriers related to nutrition and medication side effects to improve medication adherence. **Recommendation:** Engage stakeholders such as nutritionists and healthcare providers to implement nutritional programs, provide dietary counseling, and involve family support to enhance adolescent's medication adherence.

175. Makaranga, C. (2024). Evaluating health service access and associated factors among improved community health fund insured patients attending same district hospital in Kilimanjaro. Muhimbili University of health and allied sciences.

ABSTRACT

Background: Community Health Fund permits family members to access health care services from primary health facilities and secondary health services up to regional referral hospital without out-of-pocket payments. Despite the source of fund and mode of payment for health services, patient access to health service is a major factor for attaining

quality health service. **Objectives:** This study aimed at evaluating health service access and associated factors among improved Community Health Fund members attending Same District Hospital in Kilimanjaro. **Methods:** The study used a hospital-based, analytical cross-sectional design with a quantitative approach, targeting clients aged 18 and older at Same District Hospital, Kilimanjaro. Data was collected using a pretested questionnaire from randomly selected respondents. Key aspects assessed included affordability (ability to pay for health services), physical accessibility (transportation convenience), facility accessibility (distance from residences), and acceptability (satisfaction with services). SPSS version 23 was used for data analysis, with chi-square tests to evaluate associations and Modified Poisson regression analysis to identify factors associated with healthcare access. Significance was set at 0.05. **Results:** 479 iCHF members consented to participate. Participants were predominantly aged 30-44 years, male, married and had secondary education and above. Affordability issues were significant, with 45.9% finding iCHF unable to provide necessary services without extra payments, and high dissatisfaction with cost of medicine, medical supplies, investigations, procedures, and referrals. Physical accessibility was viewed positively by 74.5%, though 27.8% still faced barriers. Acceptability was high, with 68.7% participants finding services acceptable overall. Significant associations were found between access to healthcare and non-infectious disease status (adjusted PR: 1.85, $p=0.001$) and age over 45 years (adjusted PR: 2.41, $p<0.001$). **Conclusion and Recommendations:** The study reveals significant gaps in affordability, physical accessibility, and overall access despite high levels of service acceptability. A substantial number of members, particularly from lower and middle-income brackets, encounter financial hurdles due to costs not covered by the insurance. Notably, access varies by illness type and age. It is recommended that enhancing financial protection by expanding iCHF coverage to include essential and specialized services, thereby reducing the financial burden. Improving physical accessibility through investments in transportation infrastructure and the addition of more health facilities, along with mobile clinics and community outreach programs, are suggested to mitigate physical barriers.

176. Makole, T.J. (2024). Regulatory gap in retail drug outlets in Tanzania: implications for enhanced oversight and enforcement. Muhimbili University of Health and Allied Sciences.

ABSTRACT

Background: Retail drug outlets in Tanzania play a crucial role in providing pharmaceutical services but often face regulatory infringements like unauthorized drugs, poor storage, and unqualified staff, thus posing public health risks. Ensuring stringent enforcement of regulations is vital to protect public health. Despite the proliferation of retail drug outlets, there is a lack of published information on compliance levels and the adequacy of existing regulations in providing needed oversight, prompting this study to explore these gaps and assess compliance. **Objective:** This study aimed to assess the level of compliance with regulatory requirements among retail drug outlets in Tanzania, evaluate the adequacy of existing regulations, and identify factors contributing to non-compliance. **Methodology:** A mixed-methods approach was utilized. Quantitative and qualitative data were collected from inspection reports of retail drug outlets across Dar es Salaam, Coast, and Tanga regions from the 2020/2021 to 2022/2023 Tanzania government financial years from Tanzania Medicines and Medical Devices Authority and inspection reports of retail drug outlets from Pharmacy Council of Tanzania for same period. Qualitative data were gathered through semi-structured interviews with eight participants, including pharmaceutical personnel, regulatory professional, owners, and managers. Desk review of regulations also was conducted to assess regulatory requirements for registration and operation of retail drug outlet. **Results:** A total of 873 inspection reports of retail drug outlets across Dar es Salaam, Coast, and Tanga regions from the 2020/2021 to 2022/2023 Tanzania government financial years from Tanzania Medicines and Medical Devices Authority were included in the study. TMDA reports revealed that 362 (34.3%) of outlets fully comply with regulations while the Pharmacy Council reporting 137 (42%) out of 329 full complied according to inspection reports analysis. Qualitative findings pointed to issues such as complex registration processes, financial constraints, inadequate enforcement, and the presence of unqualified personnel

as significant barriers to compliance. Review of existing regulations revealed that TMDA and Pharmacy Council are empowered to conduct inspections in health facilities but are not part of the registration process and bureaucratic registration process and identified deficiencies in the existing regulations which might be contributing factors to malpractice. Apart from registration the Pharmacy Council does not conduct regulatory inspections to clinics, dispensaries, health centers and hospitals to assess the requirement of having pharmaceutical personal and their practices. **Conclusion:** The findings highlight significant challenges in regulatory compliance within retail drug outlets in Tanzania. A notable proportion of outlets did not fully comply with regulatory standards, reflecting gaps in adherence despite existing frameworks. Financial constraints, inconsistent regulatory enforcement, and patient demand further complicate adherence to regulatory standards. Unharmonized regulatory frame works between different institutions responsible for registration of retail drug outlets was also pointed out as a challenge in regulating these outlets.

177. Makoye, P, R. (2024). Clinical audit on surgical management of pressure ulcer in the Plastic Surgery unit at Muhimbili National Hospital, Muhimbili university of health and Allied Sciences.

ABSTRACT

Background: Pressure ulcers, caused by prolonged pressure or shear in immobile or critically ill patients, pose a major healthcare challenge, leading to complications and higher costs. Surgical management is crucial for advanced cases, yet data on techniques and outcomes, particularly in Sub-Saharan Africa, is limited. This audit evaluates surgical interventions for pressure ulcers at Muhimbili National Hospital (MNH), aiming to improve care strategies and address a critical knowledge gap. **Objective:** To assess the surgical management of pressure ulcers in the Plastic Surgery Unit at Muhimbili National Hospital, with the aim of improving patient outcomes and optimizing care practices. **Methodology:** This clinical audit was conducted at the Plastic and Reconstructive Surgery Unit, Muhimbili National Hospital, from November 2022 to August 2024. It

retrospectively reviewed surgical management of pressure ulcers in adult patients. Data was collected via patient records, analyzed using SPSS after obtaining ethical clearance obtained from MUHAS and MNH. **Results:** This audit of 17 pressure ulcer patients at Muhimbili National Hospital revealed a median age of 62 years, predominantly affecting older males (58.8%), with 52.9% having Grade III ulcers mainly in the sacral region (41.2%). Most patients were non-ambulant (70.6%), indicating a need for targeted care. Seven surgical techniques were employed, with the gluteal my cutaneous V-Y flap being the most common (29.4%). Significant associations were found between ulcer location and severity in surgical technique selection ($p=0.047$ and $p=0.045$), while age, gender, and mobility status did not significantly impact choices. Postoperative complications occurred in 29.4% of patients, particularly high in those treated with the reverse sural flap (100% complication rate), and the median hospital stay was 9 days, underscoring the necessity for effective postoperative care. **Conclusion:** This audit reveals a significant prevalence of pressure ulcers among older male patients, primarily affecting those who are non-ambulant. The findings highlight the need for tailored surgical interventions, particularly the gluteal my cutaneous V-Y flap, while emphasizing the importance of postoperative care to reduce complications. Targeted strategies are essential for managing pressure ulcers in high-risk populations to improve patient outcomes.

178. Mangka Adeb, E.A. (2024). Proportion of patients with sexual dysfunction and associated factors among patients with pelvic ring fractures at Muhimbili Orthopedic Institute. **Muhimbili University of Health and Allied Sciences.**

ABSTRACT

Background: Pelvic ring fractures are common orthopedic conditions and are associated with several complications, which include sexual dysfunction as a late presentation. Even without severe injury to the urogenital structures, damage to the vascular and neurogenic tissues of the genitalia can result in Sexual dysfunction. The modifiable and non-modifiable factors associated with sexual dysfunction among patients with pelvic ring fractures have not been fully established. **Objective:** This study sought to examine the

proportion of patients with sexual dysfunction and associated factors among patients with pelvic ring fractures at MOI. **Methodology:** A quantitative cross-sectional study was carried out on 384 patients with pelvic ring fractures to examine the prevalence of sexual dysfunction and its associated factors. Data was retrieved from patients' records using a questionnaire that obtained information on, the burden of sexual dysfunction of clients treated at MOI with pelvic ring fractures, determined the prevalence of erectile dysfunction among men with pelvic ring fractures, determined the prevalence of ejaculation and orgasmic dysfunction in patients treated with pelvic ring fractures and assessed pain during sex in patients with pelvic ring fractures. Data was entered into Statistical Package for the Social Sciences (SPSS-24), cleaned and analyzed to first obtain summary statistics. Comparisons of two variables were carried out by the Chi-square test. Variables with P = 0.05 were entered into a multivariate logistics Regression analysis to obtain ORs and aORs with their 95%CI. Statistical significance is set at P < 0.05. **Result:** About 71(18.5%) of participants' ages ranged from 30 to 34 years, and 279(72.7%) of participants were male. The average mean scores were found to be 36.52±4.15 and 16.41±1.80. The proportion of patients with sexual dysfunction was 214(76.7%) and 65(61.9%) among male and female patients, respectively. Age group [AOR: 1.0, 95% CI: 0.816 – 1.238, p=0.002], level of education [AOR: 1.0, 95% CI: 0.268 – 3.864, p=0.001], occupation [AOR: 1.1, 95% CI: 0.258 – 4.479, p=0.01], insurance status [AOR: 1.1, 95% CI: 0.418 – 2.700, p=0.016] had a statistically significant association with the sexual dysfunction among female patient with pelvic ring fractures. Also, age group below 40 years was [AOR: 0.9, 95% CI: 0.456 – 1.903, p=0.037], secondary level of education [AOR: 0.9, 95% CI: 0.439 – 2.145, p=0.005], private or national insurance status [AOR: 0.9, 95% CI: vi 0.389 – 2.265, p=0.02] had statistical significance associated with the sexual dysfunction among male patients with ring fracture (p<0.05).**Conclusion and Recommendation:** The higher proportion of patients with sexual dysfunction among patients with pelvic ring fractures was greatly attributed to age, level of education, occupation, and health insurance among patients with pelvic ring fractures. The provision of public health education is recommended to

create awareness about sexual complications of pelvic injuries to reduce the potential impact of pelvic ring fractures on sexual function.

179. Mapunda, D. (2024). Use and barriers to non-pharmacological pain management methods among nurses working in intensive care units at Muhimbili national hospital in Dar es salaam, Tanzania. Muhimbili University of Health and Allied sciences.

ABSTRACT

Background: Pain in Intensive Care Units (ICUs) affects up to 80% of patients during routine care procedures. Non-pharmacological pain management methods (NPPM), such as repositioning and the application of heat or cold, have proven successful globally. Despite this, studies show that these methods are underutilized by nurses, resulting in persistent pain and increased reliance on medications. In Tanzania, there is limited research on the use of NPPM. **Aim**: This study aimed to determine the use and barriers of NPPM among nurses working in intensive care units at Muhimbili National Hospital in Dar es Salaam, Tanzania. **Materials and Methods:** This study used a quantitative descriptive cross-sectional design, involving proportionate stratified sampling and simple random sampling of 106 nurses who were working in ICUs. Data were collected using questionnaires and analyzed using descriptive statistics (SPSS-25), Chi-square, bivariate analysis, and multivariate logistic regression. **Results:** A total of 106 nurses participated in the study, achieving a response rate of 100%. Of the participants, 68 (64.2%) were aged 34 years or less, 78 (73.6%) had worked for 5 years or less in the ICU, and 47 (44.3%) had received training on NPPM. Furthermore, 61 (58%) nurses utilized NPPM, with 60 (98%) commonly using physical methods, specifically positioning used by 60 (100%) nurses. Training, age, and work experience exhibited a statistically significant association with the use of non-pharmacological methods (P-value < 0.05). Time constraints, Shortage of nurses, inadequate guidelines, Inadequate in service training on NPPM and type of morbidity, were the most common barriers to the use of NPPM in ICUs. **Conclusion:** Nurses in ICUs at MNH moderately utilize non-pharmacological pain

management methods (NPPM) despite their crucial role in patient care. Training, age, and working experience have significantly increased NPPM usage. Various barriers were identified that hinder the use of NPPM, including inadequate knowledge, doubts about NPPM effectiveness and limited resources. To address these barriers, regular, updated training is recommended. This can be achieved through training and mentoring junior nurses on the use of NPPM. Ultimately, these efforts can enhance patient care and outcomes.

180. Mapunda, R. (2024). Estimating the caregiver burden and its nature among caregivers of children with leukemia at muhimbili national hospital oncology unit in Dar-es-salaam. Muhimbili university of health and allied sciences.

ABSTRACT

Background: leukemia is a leading concern in pediatric cancers, with 694 incidence and a mortality count of 527 cases with five-year prevalence recorded was 1,500 cases (2.5 per 100,0000) (1). Despite the advancement in cancer treatment, leukemia demands close and prolonged care from family caregivers hence adding a burden on caregivers. This includes physical, mental, social, or financial strain which happens when the demand for care exceeds their available resources or social support. This in turn tends to affect the quality of care for children with leukemia. Despite these detrimental impacts the disease poses to caregivers, little has documented about the estimated caregiver burden and its nature in Tanzania. **Aim of the study**: To Estimate the caregiver burden and its nature among caregivers of children with leukemia at Muhimbili National Hospital Oncology Unit in Dar-es-salaam. **Methodology:** This quantitative cross-sectional study used simple random sampling to obtain 104 Primary caregivers of children undergoing leukemia treatments at MNH pediatric oncology unit. Data were collected through a researcher-administered questionnaire and a modified ZBI scale with 22 items, and SPSS version 23 was used to analyze the data. Descriptive statistics used to analyses social demographic, clinical characteristics and nature of the caregivers while Logistic regression (Bivariate and multiple analysis) were employed to identify factors associated

with caregiver burden**. Results;** Caregivers had a mean age of 30.5± 5.6SD, with most of them being female 70(67.3%). 60 (57.7%), experience a moderate to severe burden (47.9 ±12.3SD). Economic and social burdens were identified, with 54.8% of caregivers frequently facing financial strain while 53.8% lack family support and 62.5% lack support from friends. The age of the caregiver, relationship with the child, number of hospital admissions, inadequate social support and financial strain were associated with the caregiver's burden (aOR = 0.25, 95% CI: 0.066 – 0.971, p = 0.045), (aOR = 0.093, 95% CI: 0.09 – 0.96, p = 0.045), (aOR= 5.2, 95% CI: 1.29 - 7.94, p = 0.020), (aOR = 1.25, 95% CI: 1.066 – 2.917, p = 0.037), (aOR = 0.65, 95% CI: 0.081 – 0.849, p = 0.032) respectively. **Conclusion;** This study find a high prevalence of burden (moderate to severe) among caregivers of children with leukemia. Economic and social aspects are identified as the nature of the burden. The age of the caregiver, relationship to the child, number of hospital admissions, inadequate social support and financial strains were significantly associated with caregiver burden. This study recommends a comprehensive care plan for caregivers, including regular burden assessments, and financial and social support to alleviate the burden on caregivers. **Key words:** Caregiver burden, children, leukemia, nature and ZBI scale

181. Marco, B. (2024). Maxillectomy: Indications, types, and factors associated with its early complications among patients who underwent Surgery at Muhimbili National Hospital. Muhimbili university of health and Allied Sciences.

ABSTRACT

Background: A global rise in surgical complications has been reported in recent years, ranging from 3-22%. It continues to be a public health problem in terms of patient mortality, morbidity and hospital costs. A higher burden of complications is documented in maxillectomy procedures ranging from 10.6 to 43.9%. However, In Tanzania and Africa, little is known about complications of maxillectomy and their associated factors. **Aim:** We conducted this study to determine indications, types, and factors associated with early maxillectomy complications among patients at Muhimbili National Hospital.

Materials and Methods: We conducted a hospital-based cross-sectional study and recruited 62 patients who underwent surgery at MNH between September 2023 and February 2024. A convenient sampling technique was employed and a semi-structured questionnaire was used for data collection. Descriptive and Logistic regression analyses were performed to determine indications, types, and factors associated with early complications of maxillectomy. A p-value of <0.05 was considered statistically significant. **Results;** The median age was 38.5 years,51.6% were males,16.1% were underweight,33.9% had known comorbidities,9.7% and 29.0% had positive history of tobacco use and alcohol consumption respectively. Malignant tumors (50%) and partial maxillectomy (79%) respectively, were the most common indications and type of maxillectomy performed. Overall, 56.5% of study participants had some form of early complications, with wound infections being predominant (32.3%). Total maxillectomy, malignant tumors and, > 3 hours duration of surgery showed significantly higher rates of complications in their respective subgroups. However, > 3 hours duration of surgery was ultimately the factor associated with early complications of maxillectomy after multivariate logistic regression analyses. **Conclusion;** Malignant tumors constitute about half of maxillectomy indications. Early complications of maxillectomy affect more than half of patients undergoing surgery at MNH. Duration of surgery of >3 hours have the potential to increase the odds of complications up to 12.9 times.

182. Margareth, P.M. (2024). Assessment of pattern and factors associated with inappropriate Polypharmacy practice at Muhimbili National Hospital. Muhimbili university of health and Allied Sciences.

ABSTRACT

Background: Polypharmacy involves the use of multiple medications by a single individual, often due to multiple medical conditions or symptoms. Inappropriate polypharmacy occurs when a patient is prescribed multiple medications that are either unnecessary or potentially unsafe. Inappropriate polypharmacy can lead to adverse drug reactions, decreased adherence, morbidity, mortality, and increased healthcare costs.

Despite global concerns about its adverse effects, the indications, magnitude, involved medical conditions, and patient factors associated with inappropriate polypharmacy Tanzania. **Objective:** To assess patterns and factors associated with polypharmacy at Muhimbili National Hospital. **Materials & Methods**: Across-sectional study design was employed. Prescriptions of 682patients who received treatment at Muhimbili National HospitalfromJanuary2023to June 2023were reviewed using a random probability sampling technique. Descriptive statistics were used to assess the magnitude of inappropriate polypharmacy, identify involved medical conditions, and identify patterns. Logistic regression was used to determinetheassociations between patient factors, providerfactorsand inappropriate polypharmacy. **Results:** More than half of the patients were female (58.4%), and 65.3% were adults aged 18-64. Most patients (67.2%) used insurance. Inappropriate polypharmacy occurred in 46.5% of cases. Higher risks were noted in females (aOR: 1.14,), adults aged 16-64 (aOR: 1.3), and insured patients (aOR: 1.16), while those with multi-morbidity had a lower risk (aOR: 0.59). Opioids & Narcotics were the most common drugs with addiction risks. **Conclusions and recommendations:** Inappropriate polypharmacy is a significant issue, especially among females, adults, and insured patients, often linked to conditions like obstetrics and gynecology, oncologic, and cardiovascular diseases. To improve patient safety and medication use, the study recommends strict adherence to prescribing guidelines, regular medication reviews by multidisciplinary teams, and promotion of collaborative care models. These steps aim to reduce unnecessary or harmful medication use and enhance patient outcomes.

183. Marombe, T.I. (2024). Satisfaction of Nursing Care and its Associated Factors among Patients with Coronary artery Disease at Jakaya Kikwete Cardiac Institute, Dar es Salaam, Tanzania. Muhimbili University of Health and Allied Sciences.

ABSTRACT

Background: Patient satisfaction is a measure of the effectiveness of the health system. It can serve as a basis for pressuring medical professionals to take greater responsibility for their patients, which will improve survival rates. Patient happiness is expressed in health services' distribution, availability, and use. It has been demonstrated that one of the variables affecting a patient's quality of life and lowering their chance of recurrent episodes is their satisfaction with the nursing care they receive for their coronary artery disease (CAD). Inadequate nursing care can have negative effects on patients' satisfaction with nursing services and, if appropriate action is not taken, may be one of the things that deter patients from visiting hospitals. **Objectives:** To assess level satisfaction with nursing care and its associated factors among patients with coronary artery disease. **Methodology:** A cross-sectional hospital-based study was conducted at Jakaya Kikwete Cardiac Institute (JKCI). A total of 150 respondents were recruited using a simple random sampling technique. Data collection was done using a standardized questionnaire. The STATA software Version 27 was used to analyze data. Univariate and multivariate analyses were performed to assess the association of socio-demographics, level of patient satisfaction and factors associated with patient satisfaction with nursing care. A P-value of <0.05 was considered statistically significant. **Results:** The mean age of respondents was 58.78±15.16 years, with majority 81 (54%) were males. Most 106 (70.7%) respondents were married, and 103 (68.7%) were peasants. Most respondents 127 (85%) were satisfied with nursing care. Patients with higher education and treatment category with VIP had significantly reduced chance of dissatisfaction with nursing care (adOR 0.478, of 95% CI: 0.094-0.632, p=0.012) and adOR 0.234 of 95% CI: 0.074-0.432, p=0.002) respectively. **Conclusion:** The majority of patients were satisfied with the nursing care and treatment category by VIP and Insurance and higher education had a positive association with satisfaction. Further research is needed to qualitatively assess the aspects of nursing care that lead to the satisfaction among patients with CAD.

184. Marwa, M. (2024). Comparison of quality of life among patients with and without diabetic retinopathy at Muhimbili National Hospital. Muhimbili University of Health and Allied Sciences.

ABSTRACT

Background: Diabetes mellitus (DM) is a chronic metabolic condition of public health importance. About 463 million individuals worldwide have DM. Diabetic retinopathy (DR) is a potentially blinding micro vascular consequence of DM causing 2.6 million visual impairment and 2.52 million blindness cases among the working age group. The presence of DM comorbidities and complications tend to have an impact on the quality of life of an affected individual. Visual impairment and blindness caused by DR may affect the individual socially, emotionally and economically. This will consequently disturb the overall life of individual patients, family and the community at large. There is scarcity of data on the quality of life among patients with diabetic retinopathy hence the need to conduct this study. **Aim:** To assess quality of life and associated factors in patients with and without diabetic retinopathy at Muhimbili National Hospital. **Methodology:** A cross-sectional analytical comparison study was conducted among adult patients with DM aged 18 years and above. A total of 160 patients were recruited, 86 with DR and 74 were those without DR. Participants were selected by stratified random sampling, stratum 1 with DR and stratum 2 without DR, then systematic random sampling was done in each stratum. Comprehensive ocular examination and OCT were done after a short interview. The National eye institute visual functioning questionnaire 25 (NEI-VFQ 25) tool was used for collection of data on quality of life. Data analysis was done by SPSS version 23. Chi square test was used to show the relationship between quality of life (QoL) and associated factors in which P value of <0.05 was considered statistically significant, and t-test was used to compare the means of two groups. Univariate and multivariate linear regression analysis was used to determine the strength of association between quality of life and the associated factors. **Results:** Ninety-four (58.8%) patients were females and majority (60%) of participants were aged between 44-56 years with mean age of 55.2 (+8.9) years. One hundred thirteen (70.6%) had attained college or university education and Dar es Salaam accounted for 114 (71.3%) of the majority. Cataract was the most frequent ocular comorbidity occurring in 79 (65.2%) The overall QoL was lower in participants with DR (45.8±11.3) compared to those without DR (71.8±10.2).

Participants with DR had poor vision related and general health scores compared to those without DR. After adjusting for confounders employment (b coefficient=14.3, p=0.0012) associated with higher QoL, longer duration of DM (b= -25.2, p=0.014) and DR (b= -17.2, p=0.001), higher level of HBA1c (b= -10.4, p=0.001), PDR (b= -27.1, p=0.001), presence of multiple ocular comorbidities (b= -12.5, p= 0.001), blindness category (b= -19.4, p= 0.001) and presence of DR complications (b= -34.3, p=0.001) contributed to a marked QoL score decline in multivariate analysis. **Conclusion:** The QoL was lower in participants with DR compared to those without DR. Factors like presence of multiple ocular co-morbidities, severe visual impairment, PDR, high HBA1c levels, longer DM and DR duration, presence of DR complications was significantly associated with a low QoL score. **Recommendations:** People with DM should have regular eye examinations to detect DR in its early stages, this can prevent vision loss and improve overall QoL, maintaining optimal blood sugar levels is important to prevent or delay the onset of DR this can be achieved by including eye services and creating a comprehensive multi-modal approach where patient-centred therapy and lifelong follow-up is required taking into account their wellbeing.

Keywords: Diabetes mellitus, diabetic retinopathy, quality of life.

185. Masalu, F. (2024). Prevalence, etiology and factors associated with urinary tract infections among adult females at Nyamagana district hospital in Mwanza city, Tanzania. Muhimbili university of Health and Allied sciences.

ABSTRACT

Background: Urinary Tract Infections (UTIs) are public health problems affecting about 150 million people globally each year, mostly among females, representing the top 3 outpatient diagnoses in Nyamagana District in Mwanza region, Tanzania. Bacteria causing UTIs in females are diverse and incorrect treatment of UTIs could lead to antimicrobial resistance and potential complications such as kidney damage and renal failure. Several factors can increase the risk of UTIs including sexual practices, poor hygiene, low water intake, catheterization and history of UTIs.**Aim:** The aim of the study

was to determine the prevalence, etiology, antimicrobial susceptibility patterns, and factors associated with UTIs among adult females at Nyamagana District Hospital in Mwanza City, Tanzania.**Materials and Methods:** A cross-sectional study was conducted among adult females (≥18 years) attending as outpatients at Nyamagana District Hospital between April and May 2024. A systematic random sampling procedure was used to recruit 392 participants. Data on sociodemographic, clinical, and behavioral factors associated with UTIs were collected using structured interview questionnaire and on etiology and antimicrobial susceptibility for UTIs were obtained through urine culture and sensitivity tests. Descriptive statistics and modified Poisson regression analysis (bivariate and multivariable analysis) were performed using STATA (version 15.1) where the association between UTIs and the independent variables was interpreted using adjusted prevalence ratios with significance level set at p-value< 0.05. **Results:** Among 392 participants with a Median age of 30 years and Interquartile Range (IQR) of 23 – 42 years, UTIs were found in 32.1% (95% CI: 27.5-36.8, n=126) adult females. The UTI was significantly associated with younger age, unsafe sexual activity, low drinking water intake, history of catheterization and knowledge on UTI prevention. Of the 126 isolated pathogens, gram-negative bacteria included *Escherichia coli (*31.7%, n=40), *Klebsiella spp*. (18.3%, n=23) and *Enterobacter spp.* (8.7%, n=11) and gram-positive bacteria included *Staphylococcus aureus* (21.4%, n=27) and *Staphylococcus saprophyticus* (5.6%, n=7). *Escherichia coli, Staphylococcus aureus* and *Klebsiella spp.,* the predominant causative bacteria isolated had high antimicrobial susceptibility (≥80.0%) against antibiotics like Ciprofloxacin (*E. coli* – 87.5%, *S. aureus* – 85.2%, *K. spp.* – 87.0%), Gentamycin (*E. coli* – 100.0%, *S. aureus* – 88.9%, *K. spp.* – 95.7%), Ceftriaxone (*E. coli* – 85.0%) and Meropenem (*E. coli* – 92.5%, *K. spp.* – 95.7%). Low antimicrobial susceptibility rates ranged from 0.0% to 47.5% against Penicillin G, Trimethoprim-sulfamethoxazole, Erythromycin, Tetracycline, Clindamycin and Imipenem. **Conclusion and Recommendations:** The prevalence of UTIs is high among adult females at Nyamagana District Hospital with several socio-demographic, clinical and behavioral factors showing significant association with the disease. *Escherichia coli, Staphylococcus aureus* and *Klebsiella spp.* are the predominant causative bacteria, all of which have

shown high antimicrobial susceptibility (≥80.0%) against antibiotics like Ciprofloxacin, Gentamycin, Ceftriaxone and Meropenem which are among the UTI treatment options as per Tanzania Mainland's Standard Treatment Guideline (STG). Other treatment options in the guideline like Nitrofurantoin and Amoxicillin + Clavulanic acid showed considerably lower antimicrobial susceptibility (< 80%). Low antimicrobial susceptibility rates have been observed against other antibiotics which are not UTI treatment options (but could happen to be used) like Penicillin G, Erythromycin, Tetracycline, Trimethoprim-sulfamethoxazole, Clindamycin and Imipenem. There is a need to explore the effectiveness of existing UTI prevention and control interventions along with evaluating the utilization of the existing STG as possibility of UTI treatment contrary to recommended UTI treatment options may exist leading to antimicrobial resistance.

186. Masanje, P. (2024). Proportion and pattern of hearing loss among adult patients attending ear, nose and throat clinic at Temeke regional referral hospital. Muhimbili University of Health and Allied Sciences.

ABSTRACT

Background: Hearing loss represents the third most common chronic disease in the world. It belongs to the same group as depression and visual loss, which are the most common disabilities in the world. An estimated 466 million people globally live with debilitating hearing loss. According to the WHO, about 630 million individuals will experience debilitating hearing loss by 2030 if no action is taken to prevent hearing loss. This figure is projected to increase to 700 million people by 2050. The prevalence of hearing loss is markedly high in low- and middle-income countries, which warrants researchers to probe more into the burden of the problem and how to prevent and reduce the growing number of new patients with hearing loss. Few studies have been conducted in Tanzania to inquire about the proportion and pattern of hearing loss, particularly in the context of a referral regional hospital. **Objective:** To determine the proportion and pattern of hearing loss among adult patients attending ear, nose and throat clinic at Temeke regional referral hospital. **Methodology:** This was a hospital-based cross-sectional study

with a duration of six months. A total of 240 patients aged 18 years and older attending the Ear, nose, and throat (ENT) clinic at Temeke regional referral hospital were enrolled. A convenience nonprobability sampling technique was used. Information about age, sex, laterality, and severity of hearing loss was recorded in the data collection sheet. The data were entered into Statistical Package for Social Sciences (SPSS) version 25.0 and analyzed. **Results:** The study included 240 patients in total. The age varied from 18 to 80 years, with a median age of 31 years. There was female predominance, with a male-to-female ratio of 1:16. In the study, the proportion of hearing loss was 48.8%, and it was commonly observed in patients aged between 58 and 77 years. Based on laterality, 68% of patients had bilateral hearing loss, whereas 32% had unilateral hearing loss. Regarding the type of hearing loss, 78.1% had sensorineural hearing loss, followed by conductive, 17.3%, and mixed hearing loss, 4.6%. Based on severity, 60.8% had mild hearing loss, which was the most common, while profound hearing loss was the least common. vi **Conclusion:** This study highlights a significant proportion of hearing loss among adult patients attending the Ear, Nose, and Throat clinic at Temeke Regional Referral Hospital, with an overall proportion of 48.8%. The findings indicate that sensorineural hearing loss is the predominant type, emphasizing the need for targeted screening and intervention strategies. Furthermore, mild hearing loss was the most commonly observed severity, which may often go unnoticed and untreated in the population. Additionally, bilateral hearing loss was the most frequently observed type of laterality. **Recommendations:** Because the most prevalent level of hearing impairment was mild, the majority of patients were unaware of their hearing loss. The population should receive public health education on hearing protection, early detection of hearing loss, and prompt medical intervention. Additionally, screening programs and techniques to assist persons with hearing loss, such as programs that provide a necessary rehabilitation strategy to improve communication, social, and economic well-being, should be provided. Finally, more research is needed to identify the causes and conditions that contribute to hearing loss.

187. Masatu, J. (2024). The prevalence, outcomes, and factors associated with caesarian sections among women who delivered in health facilities in Njombe Region. Muhimbili University of Health and Allied Sciences.

ABSTRACT

Background: Caesarean section (CS) reduces maternal and fetal morbidities and mortality when done appropriately. However, excessive caesarean section utilization carries significant maternal and neonatal health risks. In Tanzania, the CS rate is estimated at 13%. But Njombe region reported a 29% CS rate in 2022, exceeding the World Health Organization's recommended threshold of 15%. **Broad objective:** We aimed to study CS prevalence, outcomes, and associated factors among Post-Delivery Women (PDW) in selected facilities in the Njombe region. **Methodology:** We conducted the facility-based cross-sectional study using quantitative methods. Multistage cluster sampling techniques were employed to select 567 PDWs who delivered in six selected heath facilities in Njombe region. Data was collected by closed-ended questions designed in the Kobo Collector toolbox and analyzed using Stata version 15. Means and standard deviations were used for summarizing of continuous variables while frequencies and proportions were used to summarize categorical variables. The results were presented in frequency distribution tables and graphs. The Modified Poisson regression analysis was used to assess association between CS delivery and the independent variables where variables with p values. **Results:** The prevalence of CS in the selected facilities in Njombe region was found to be 45.50%. Notably, 1.6% of neonates died, post-CS maternal and fetal complications of 12.8% and 32.6%, respectively. The CS was associated with Marital status, where women who were single were 1.25 more likely to delivered by CS compared to married women (aPR = 1.25 [95% CI: 1.01–1.74]), women who delayed ANC booking were1.52 more like to delivery by CS compared to early booking (aPR = 1.51 [95% CI: 1.10.1.42]), Height of the mother also showed significant. Association with CS where women who had Maternal height ≤150 cm were 1.24 more likely to undergo CS compared to ones with height above 150 cm (aPR = 1.24 [95% CI: 0.90-1.60]). In terms of delivery factors , Baby weight was associated with CS were by

women who delivered babies with weight above 4.1 Kg were1.67 more likely to delivered by CS compared with ones with babies with weight below 2.5Kg (aPR = 1.67 [95% CI: 1.07–2.27]), There was association between gestation age during delivery where by women with gestation age of 43+ at delivery were 1.49 more likely to reliever by CS compared to ones with gestation age below 37 week during delivery (aPR = 1.49 (aPR = 1.49 [1.25-1.73]), Number of babies born was associated with CS where by women with twin deliveries were 1.15 more likely to delivered by CS compared to single ones with single babies (aPR = 1.15 [95% CI: 1.03–1.68]).There was a significant association between CS and referral status where women who referred from health centers were 2.10 more likely to delivered by CS compared to ones who come from home (aPR = 2.10 [95% CI: 1.50–3.80]), Women who delivered in Private owned health facilities were 1.13 more likely to delivery by CS compared to ones delivered in public health facilities (aPR = 1.13[95% CI: 0.75-1.67]), and Women who used NHIF financing method were 1.12 more likely to undergo CS compared to ones who paid cash for labor and delivery services (aPR = 1.12 [95% CI: 1.40-1.90]).**Conclusion**: The prevalence of CS among PDW in the selected health facilities in Njombe region was found to be 45.5% (95% CI: 41%-49%). The leading fetal and maternal indications for caesarian section were previous scars and fetal distresses. Notably, there was a neonatal death rate of 1.6% and post-CS maternal and fetal complications of 12.8% and 32.6%, respectively. The CS deliveries and newborns factors was associated with social demographics (marital status), Maternal characteristics (timing of ANC visits, maternal height), health facility related factors (admission from, health facility ownership, and health financing method), delivery and newborn characteristics (baby sex, birth weight, multiple pregnancies, and gestational at delivery).

188. Masawe, E.S. (2024). Prevalence of depression and associated factors among adolescents with type one diabetes attending diabetes clinics in Dar-es-salaam, Tanzania. Muhimbili University of Health and Allied Sciences.

ABSTRACT

Introduction: Children with type one diabetes (T1DM) are surviving to adulthood due to improved care and awareness, which in turn increase the number of cases of T1DM among adolescents. Compared to individuals without diabetes, those with diabetes are 2 to 3 times more likely to develop depression, especially among adolescents. Depressive symptoms during the adolescent period have been associated with suboptimal glycemic control. **Objectives:** To determine the prevalence of depression and associated factors among adolescents with T1DM attending diabetes clinics in Dar-es-Salaam. **Methodology:** A hospital-based cross-sectional study was conducted amongst adolescents aged 10-19 years with T1DM attending 4 public diabetes clinics in Dar es Salaam (Muhimbili National Hospital (MNH), Mwananyamala Regional Referral Hospital (RRH), Temeke RRH, and Vijibweni District level Hospital) from November 2023 to April 2024. A pre-tested structured questionnaire was used to obtain socio-demographic and clinical information about the participants and the caregivers, while the validated Patient Health Questionnaire (Swahili version) modified for adolescents (PHQ-A) was used to assess depression symptoms. **Results:** A total of 186 adolescents with T1DM were recruited in the study. The majority, 144 (77.4%), were aged > 14 years with a median age of 15 years and female predominance (58.1%). Depressive symptoms were detected in 107 (57.5%) adolescents, of whom 50 (26.9%) had clinical depression (moderate, moderately severe, and severe depression). A higher odd of having depression was noted among females (Adjusted Odds Ratio (AOR) = 2.86, 95% CI: 1.32- 6.18, p = 0.008), those aged >14 years, (AOR 3.88, 95% CI: 1.64-9.15, p = 0.002) and those with <5 years duration since being diagnosed with diabetes (AOR 1.16, 95% CI: 1.06-1.26, p =0.001). However, those with lower average blood glucose levels of ≤7 mmol/L exhibited significantly lower odds of depression compared to their counterparts (p = 0.002).

189. Mashauri, R. (2024). Factors associated with diarrheal diseases among children under five years of age in mjini Unguja, Zanzibar, 2024. Muhimbili University of Health and Allied Sciences.

ABSTRACT

Background: Diarrhea, characterized by passing three or more loose stools daily, is a major cause of child deaths, especially in developing countries, due to inadequate sanitation and unsafe water. WHO and UNICEF report that about 525,000 children under five years die each year from diarrheal diseases, often worsened by malnutrition and weak immune systems. Preventive strategies include better sanitation, access to clean water, and good hygiene practices. In Zanzibar, despite health interventions, diarrhea continues to be a leading cause of child illness and death, particularly during the rainy season. **Objective:** To determine the factors associated with diarrhea among children below five years of age in Mjini Unguja, in May 2024**Methods:** A cross-sectional household survey was conducted in 2024. Caregivers of children aged 6 to 59 months were selected using a multistage cluster sampling technique. Data was collected using a structured questionnaire focusing on demographics, household characteristics, hygiene practices, and health behaviors. Ethical considerations were maintained. Modified Poisson regression was fitted in the final statistical model. **Results:** A total of 561 children with their caregivers were included. Most of the children were male (53.6%) and the majority of the caregivers were mothers (85.4%). Overall, 16.7% of the children experienced diarrhea within two weeks (95% CI 13.8%-20.1%). Improper disposal of feces increased the risk of diarrhea by 89% [Adjusted Prevalence Ratio (APR)= 1.89, (95% CI: 1.23-2.59)]. Those children cared for by the grandmother [APR= 0.37, (95% CI: 0.54-0.98)], children whose guardians performed moderate hand hygiene [APR= 0.22, (95% CI: 0.14-0.35)] and those who performed good hand hygiene [APR= 0.19, (95% CI: 0.09-0.37)] had less risk of developing diarrhea. **Conclusion and recommendations:** Childhood diarrhea is a major health concern in Zanzibar. The occurrence of diarrhea is associated with improper waste disposal and poor hygienic practices. To combat this problem, the government should emphasize educating parents and guardians on good hygiene practices, and sanitation.

190. Mashauri, R. (2024). Factors associated with diarrheal diseases among children under five years of age in mjini Unguja, Zanzibar, 2024. Muhimbili University of Health and Allied Sciences.

ABSTRACT

Background: Diarrhea, characterized by passing three or more loose stools daily, is a major cause of child deaths, especially in developing countries, due to inadequate sanitation and unsafe water. WHO and UNICEF report that about 525,000 children under five years die each year from diarrheal diseases, often worsened by malnutrition and weak immune systems. Preventive strategies include better sanitation, access to clean water, and good hygiene practices. In Zanzibar, despite health interventions, diarrhea continues to be a leading cause of child illness and death, particularly during the rainy season. **Objective:** To determine the factors associated with diarrhea among children below five years of age in Mjini Unguja, in May 2024**Methods:** A cross-sectional household survey was conducted in 2024. Caregivers of children aged 6 to 59 months were selected using a multistage cluster sampling technique. Data was collected using a structured questionnaire focusing on demographics, household characteristics, hygiene practices, and health behaviors. Ethical considerations were maintained. Modified Poisson regression was fitted in the final statistical model. **Results:** A total of 561 children with their caregivers were included. Most of the children were male (53.6%) and the majority of the caregivers were mothers (85.4%). Overall, 16.7% of the children experienced diarrhea within two weeks (95% CI 13.8%-20.1%). Improper disposal of feces increased the risk of diarrhea by 89% [Adjusted Prevalence Ratio (APR)= 1.89, (95% CI: 1.23-2.59)]. Those children cared for by the grandmother [APR= 0.37,(95% CI: 0.54-0.98)], children whose guardians performed moderate hand hygiene [APR= 0.22, (95% CI: 0.14-0.35)] and those who performed good hand hygiene [APR= 0.19, (95% CI: 0.09-0.37)] had less risk of developing diarrhea. **Conclusion and recommendations**: Childhood diarrhea is a major health concern in Zanzibar. The occurrence of diarrhea is associated with improper waste disposal and poor hygienic practices. To combat this problem, the government should emphasize educating parents and guardians on good hygiene practices, and sanitation.

191. Mashauri, R.M. (2024). Factors associated with diarrheal diseases among children under five years of age in Mjini Unguja, Zanzibar, 2024. Muhimbili University of Health and Allied Sciences.

ABSTRACT

Background: Diarrhea, characterized by passing three or more loose stools daily, is a major cause of child deaths, especially in developing countries, due to inadequate sanitation and unsafe water. WHO and UNICEF report that about 525,000 children under five years die each year from diarrheal diseases, often worsened by malnutrition and weak immune systems. Preventive strategies include better sanitation, access to clean water, and good hygiene practices. In Zanzibar, despite health interventions, diarrhea continues to be a leading cause of child illness and death, particularly during the rainy season. **Objective:** To determine the factors associated with diarrhea among children below five years of age in Mjini Unguja, in May 2024. **Methods**: A cross-sectional household survey was conducted in 2024. Caregivers of children aged 6 to 59 months were selected using a multistage cluster sampling technique. Data was collected using a structured questionnaire focusing on demographics, household characteristics, hygiene practices, and health behaviors. Ethical considerations were maintained. Modified Poisson regression was fitted in the final statistical model. **Results:** A total of 561 children with their caregivers were included. Most of the children were male (53.6%) and the majority of the caregivers were mothers (85.4%). Overall, 16.7% of the children experienced diarrhea within two weeks (95% CI 13.8%-20.1%). Improper disposal of feces increased the risk of diarrhea by 89% [Adjusted Prevalence Ratio (APR)= 1.89, (95% CI: 1.23-2.59)]. Those children cared for by the grandmother [APR= 0.37, (95% CI: 0.54-0.98)], children whose guardians performed moderate hand hygiene [APR= 0.22, (95% CI: 0.14-0.35)] and those who performed good hand hygiene [APR= 0.19, (95% CI: 0.09-0.37)] had less risk of developing diarrhea. **Conclusion and recommendations:** Childhood diarrhea is a major health concern in Zanzibar. The occurrence of diarrhea is associated with improper waste disposal and poor hygienic

practices. To combat this problem, the government should emphasize educating parents and guardians on good hygiene practices, and sanitation.

192. Masoud, I.A. (2024). Temporal Assessment of Body Composition Changes Before, During and After Ramadan: Effects On Cellular Health and Blood Pressure Among Healthy Male Subjects. Muhimbili University of Health and Allied Sciences.

ABSTRACT

Background: Ramadan fasting is a religious practice that involves abstaining from food and drink from dawn to sunset for a month. Millions of Muslims around the world observe this practice every year, but its effects on human physiology and health are not well understood. Previous studies have shown inconsistent and inconclusive results on the effects of Ramadan fasting on various physiological parameters, such as blood pressure, total body water, phase angle, and body fat percentage. Moreover, these studies have not considered the potential role of health behaviors, such as physical activity, and sleep patterns, in mediating or moderating the effects of fasting. **Objective:** To evaluate the effects of Ramadan fasting and accompanying lifestyle changes on body composition, cellular health, and blood pressure in healthy males, and to determine if these physiological parameters are correlated and their state before, during and after Ramadan. **Materials and Methods:** A quasi-experimental study was conducted on 26 healthy male Muslims aged 18-45. Participants were assessed a week before, the 3rd week of Ramadan, and 2 weeks after 30 days of Ramadan fasting. Blood pressure was assessed using a sphygmomanometer whereas fat free mass, total body water, phase angle, and body fat percentage were measured using bioelectrical impedance analyzer. Participants also provided demographic and health behaviors information via questionnaires. Statistical analysis was performed with STATA version 15, employing paired t-tests and Wilcoxon signed-rank tests to compare changes in body composition and blood pressure. Relationships between variables were examined using Pearson correlation coefficients. Significance was determined at $p < 0.05$ with a 95% confidence interval. **Results:** Significant reductions were observed during Ramadan in waist circumference (81.76 cm

to 80.72 cm; $p = 0.02$), hip circumference (96.84 cm to 95.57 cm; $p = 0.01$), and fat-free mass (59.55 kg to 58.11 kg; $p < 0.01$), while fat mass increased (9.20 kg to 10.37 kg; $p < 0.01$). Diastolic blood pressure showed moderate positive correlations with BMI, waist circumference, and total body water ($r = 0.45$, $p = 0.02$). After Ramadan, weight increased (68.45 kg to 69.25 kg; $p < 0.01$), along with fat-free mass percentage (85.96% to 88.04%; $p < 0.01$) and total body water (42.60 L to 44.56 L; $p < 0.01$). Phase angle improved significantly post-Ramadan (7.12 to 7.53; $p < 0.01$). No significant changes were observed in blood pressure, BMI, or systolic blood pressure across the phases. **Conclusion:** Ramadan fasting significantly impacts body composition and cellular health, with notable decreases in muscle mass and hydration during fasting. However, in healthy individuals, these changes tend to return to normal after the fasting period ends and are largely reversible, demonstrating the body's ability to recover in healthy individuals. Future studies should investigate whether the physiological flexibility observed in healthy individuals during Ramadan is maintained in individuals with underlying health conditions.

193. Massawe, G. (2024). Food safety practices and their determinants among food handlers in primary school feeding pro-grams: A study in Meru district council. Muhimbili University of Health and Allied sciences.

ABSTRACT

Background: The Tanzanian Government's Development Vision 2025 emphasizes food self-sufficiency and security, with the school feeding program under the Ministry of Education designed to reduce absenteeism and enhance nutrition. Launched in 2021, the National School Feeding Guideline, supported by the World Food Program and parental contributions, provides standardized guidance for managing school meals for approximately 12 mil-lion pre-primary and primary pupils. Despite these efforts, inadequate food safety practices in the program pose significant health risks, potentially leading to foodborne illness out-break. This study assesses food safety practices and identifies factors influencing food safety among food handlers in government-owned

primary schools. **Methodology:** This cross-sectional study aimed to assess food safety practices among food handlers in government-owned primary schools in Meru District Council. A comprehensive census approach was utilized, incorporating semi-structured questionnaires, direct observations of food handling practices, and evaluations of school infrastructure to ensure thorough representation. Descriptive and inferential statistics were applied, with modified Poisson re-gression using robust standard errors employed to identify key determinants of food safety practices. The analysis explored associations between institutional support, food safety knowledge, and observed practices. **Results:** The results highlighted widespread unsafe food handling practices among food handlers, with 83.76% engaging in unsafe practices. Inadequate infrastructure was prevalent in 85.7% of schools, significantly correlating with higher unsafe practice rates (aPR = 2.66, 95% CI: 1.86 - 3.79). Only 20.5% of the food handlers had valid medical examinations, and those who did demonstrated safer food handling practices compared to those without up-to-date health checks. Regular health inspections, received by 22.2% of schools, were linked to improved food safety practices (aPR = 0.97, 95% CI: 0.79 - 1.17). **Conclusion:** The study found 83.76% of food handlers in Meru District Council's primary schools engaged in unsafe practices, with inadequate infrastructure present in 85.7% of schools. Regular health inspections were lacking in 77.8% of schools, contributing to poor food safety. Schools with better infrastructure and regular inspections had higher compli-ance, while food handlers with valid medical examinations were more likely to follow safe practices. These findings highlight significant gaps in food safety practices across the dis-trict.

194. Masuma, J. (2024). Satisfaction with perioperative Anesthesia care and its associated factors among general surgery patients at Dodoma Regional Referral Hospital, Tanzania. Muhimbili University of Health and Allied Sciences.

ABSTRACT

Background: Patient satisfaction is paramount in evaluating quality of healthcare services, particularly in the specialized context of perioperative anesthesia care for

continuous improvement in quality. In developing countries, there is a broader range of patient satisfaction, spanning from 95% to less than 50%. Study. **Objective:** The aim of this study was to determine patients' satisfaction with perioperative anesthesia care and its associated factors among general surgical patients admitted at Dodoma Regional Referral Hospital (DRRH), Tanzania during the study period. **Methodology:** An analytical cross-sectional study of 425 perioperative patients at DRRH was conducted using a modified Leiden Perioperative Care Patient Satisfaction questionnaire. Data was collected via ODK, and perioperative factors were analysed with percentages, means, and standard deviations, while satisfaction was measured using the demarcation threshold formula. Association between variables was tested via Chi-square test for categorical variables. The chi-square, odds ratio, 95% confidence interval, and p value were computed to identify associated factors and determine the strength of the association. P-value of 0.05 was used for statistical significance. Significant independent factors in univariate analysis were included in the multivariate analysis. SPSS computer program version 20 was utilized for analysis**. Results:** A total of 64.9% (276/425) were satisfied with the perioperative anaesthesia care services, Overall mean (SD) satisfaction score being 69 (8.0). Postoperative surgical pain, time spent in the recovery room and staff consideration of patient's privacy in theatre were predictive factors for patient satisfaction after perioperative anesthesia service with AOR (95% CI) P value of 0.2 (1.36-3.08) 0.003, 4.9(2.4-9.9) <0.001, and 3.2 (1.1–9.46) 0.029 respectively. **Conclusion:** Overall patient satisfaction with perioperative anesthesia services was moderately low compared to previous studies. Key factors influencing satisfaction included preoperative visits, postoperative pain, ASA status, patient privacy, and recovery room time. Future research should focus on patients' willingness to return for surgery and explore the underlying reasons behind satisfaction to improve perioperative care quality.

195. Matalu, E.J. (2024). Oral cavity and oropharyngeal disorders among HIV patients receiving treatment at Amana regional referral hospital. Muhimbili University of Health and Allied Sciences.

ABSTRACT

Background: Oral cavity and oropharyngeal disorders are early and important clinical indicators of Human Immunodeficiency Virus (HIV) infection since they can occur in up to 50% of HIV-infected patients. Because some lesions can affect speech, chewing, and swallowing, the health of the oral cavity and Oropharynx linked to both physical and mental health, which in turn significantly influences patients' quality of life and nutritional status. **Aim/Objective:** This study aimed to identify Oral cavity and oropharyngeal disorders among HIV patients receiving treatment at Amana hospital. **Methodology:** This was hospital-based descriptive cross-sectional hospital-based study that was done at Amana regional referral hospital at the Internal medicine department (Care and Treatment Clinic and wards) in 2022/2023. This study involved 401 participants from both the care and treatment clinic (CTC) and inpatients. Thorough oral cavity and oropharyngeal examination was done to every participant demographic data, CD4 T lymphocytes (CD4+ Count) and type of oral cavity and oropharyngeal disorders were collected. Patients with mental instability, confusion or unconscious were excluded from the study. Then data were entered into and analyzed using Statistical Package for Social Sciences (SPSS) version 26. Quantitative data summarization was done using mean, and standard deviation (SD), and the qualitative data were summarized using frequency and proportions. The chi-square test assessed the association between variables, and a p-value of ≤ 0.05 was taken as a significant **Results:** In this study encompassing 401 participants with HIV infection, the mean age was 38.12 (SD=11.2), comprising 68.1% females and 31.9% males, with male to female ratio of 1:2.1. Most of participants were aged 35-44 (38.9%) while least aged above 55 years (9.0%). Notably, 33.7% of participants presented with a CD4+ count of less than 200. Among the participants, 44.1% had at least one oral cavity and/or oropharyngeal disorder, with the most prevalent being candidiasis (64.4%), more in females (68.4%) and the 35-44 age group (47.5%). Sialoadenitis was more prevalent in patients under 24 years (40.5%), while Kaposi sarcoma had higher occurrences in the 35-44 age group (52.4%). The association between CD4+ counts and the occurrence of disorders was statistically significant ($p<0.005$), indicating a decrease in the likelihood of developing oral cavity or oropharyngeal disorders with an increase in CD4+ counts; where 34.2% of patients with

candidiasis had CD4+ counts less than 200, and 81.0% of those with Kaposi sarcoma fell into the same CD4+ range. **Conclusion:** Oral cavity and oropharyngeal manifestations were more common among patients aged 35-44 years with females' predominance. Candidiasis was the commonest, Low CD4 was more associated with occurrence of Oral cavity and oropharyngeal manifestations, presenting more at CD4 count less than 200.

196. Matanda, D. (2024). Proportion of cesarean section, indications, maternal and fetal outcomes among women delivered at upgraded health centres in Temeke municipality. Muhimbili University of Health and Allied Sciences.

ABSTRACT

Background: Cesarean section (CS) is a critical surgical procedure that can save lives, but its access varies significantly between geographical locations, leading to disparities in maternal outcomes. Tanzania has been upgrading some of its health centres to provide Comprehensive Emergency Obstetrics and Neonatal Care (CEmONC) services to improve access and quality of maternal health services including CS. However, detailed information on the extent to which CS is performed, its indications, and outcomes in these upgraded health centres remains scarce. The study provides essential data to help policymakers improve obstetric care standards and address knowledge gaps regarding cesarean indications. **The study aimed:** To determine the proportion, indications, and immediate outcomes of CS at the upgraded health centers in Temeke Municipality. **Methods**: A cross-sectional study analyzed 432 medical records of women who delivered at Maji Matitu, Yombo Vituka, and Mbagala Round Table upgraded health centers in Temeke Municipality from January 1, 2021, to December 31, 2022. Using a structured checklist, data on indications and fetal-maternal outcomes of CS were extracted from patient files. Descriptive statistics were performed using SPSS version 23.0 to describe CS proportions, indications, and immediate outcomes. **Results:** The CS rate at the upgraded health centers was 21%. The average age of pregnant women was 26 years (SD ±5.6), with 92% aged between 18 to 35 years. Main causes of CS were fetal distress (23%) and Robison Group one (47%). Among multigravidas, 79% had 1 to 3 previous

deliveries, and 87% of newborns were full-term. Forty-three percent of the women were anemic at the time of CS, 76% had 4 to 8 antenatal care visits, 98% stayed in the facility for 3 days, and nearly all had live births, though 5.4% of these newborns required NICU admission. **Conclusion:** This study highlights a high CS rate in upgraded health centers, mainly due to fetal distress, previous CS, and cephalopelvic disproportion. Most CS procedures involved low-risk women, and the maternal and fetal outcomes were generally good. More research is necessary to address these high rates and enhance neonatal care.

197. Mathayo, J. (2024). Computed tomography patterns of acetabular fractures and associated mechanisms of injuries among patients attending Muhimbili Orthopaedic Institute. Muhimbili University of Health and Allied Sciences.

ABSTRACT

Background: The acetabulum plays a critical role in weight-bearing and locomotion. Acetabular fractures are increasingly prevalent, often resulting from high-impact traumas such as motor vehicle crashes. Failure to recognize or appropriately treat acetabular fractures can lead to significant long-term consequences, including chronic pain, joint deformity, instability, and the development of post-traumatic osteoarthritis. Understanding these patterns could improve diagnostic precision and refine treatment approaches. However, in Tanzania, there is limited knowledge regarding the typical patterns of acetabular fractures and any potential association between mechanisms of injuries and fracture patterns. **Objective:** To determine computed tomography (CT) scan patterns of acetabular fractures and associated mechanisms of injuries among patients attending Muhimbili Orthopedic Institute (MOI) from June 2023 to March 2024. Material and **Methods:** A prospective cross-sectional study was conducted at the Department of Radiology and Medical Imaging MOI. The study included 81 patients who attended MOI with a diagnosis of traumatic acetabular fracture by X-ray radiography and later underwent pelvic CT from June 2023 to March 2024. Statistical analysis was conducted using SPSS version 27. Continuous data were summarized with measures of central

tendency and dispersion, while categorical data were presented as frequencies and percentages. Cross-tabulations and Fisher's exact tests were employed to assess the associations, with a significance threshold of $p < 0.05$. **Results:** The study included 81 patients diagnosed with post-traumatic acetabular fractures, with a mean age of 41.01 years (± standard deviations of 15.17 years). Notably, the majority affected were male 60, 74.1%), with motor traffic crashes being the leading cause, accounting for 70 (86.4%) of cases. Falls from heights represented 11 (13.6%) of the observed fractures, while no cases of xii acetabular fractures resulting from sports injuries were reported during the study period. Posterior wall fractures were the most common pattern among patients involved in motor traffic crashes, representing 27 (38.6%) of cases. In contrast, anterior wall and anterior column fractures were more prevalent in falls from heights, each constituting 18.2% of cases. However, no significant association was found between CT scan patterns and mechanisms of injuries. **Conclusion:** This study emphasizes the predominance of males as being more affected patients compared to females and motor traffic crashes as the leading cause of acetabular fractures. Posterior wall fracture was the leading pattern among all. There was no association between the CT scan pattern and the mechanism of injury. **Recommendation:** It is recommended to prioritize the review of posterior wall fractures initially, given their prevalent occurrence among patients with acetabular fractures, and subsequent attention should be given to other common patterns to hasten the accurate diagnosis. Furthermore, the absence of acetabular fractures resulting from sports injuries or other causes highlights potential areas for further investigation into the factors contributing to these specific injury patterns. Also, males were more affected than females, so it is recommended to put much emphasis on educating this group, hence reducing this high percentage.

Keywords: Acetabular fractures, Motor traffic accidents, CT scan patterns, Mechanisms of injury

198. Mathias, E. P. (2024). "Temporary Threshold Shift Among Small-Scale Metal Workers Exposed to Noise Levels Above 85 dB(A) in Dar Es Salaam, Tanzania." **Muhimbili University of health and allied sciences.**

ABSTRACT

Background: Workers in small-scale metal industries in Tanzania are often exposed to noise levels above 85 dB(A) without using hearing protection. This exposure is linked to temporary threshold shifts (TTS), a precursor to permanent hearing damage. While global data highlight the prevalence of TTS in noisy workplaces, there is a lack of studies from African contexts on informal small-scale metal workers, particularly in Tanzania. Nevertheless, Effective control measures to reduce TTS effects, are crucially lacking in these settings. **Objective:** The study aimed to determine Temporary Threshold Shift before earplug use and during earplug intervention among small-scale metal workers exposed to noise levels above 85 dB(A) in Dar es Salaam, Tanzania. **Methods:** The study employed a controlled before-and-after design to investigate temporary threshold shift (TTS) among 55 small-scale metal workers. Participants exposed to noise levels above 85 dB underwent baseline audiometry tests without earplugs and post-intervention tests during earplug use. Data on factors influencing TTS, including age, smoking status, and ear infections, were collected through questionnaires and statistically analyzed and the impact of earplugs use on TTS was observed. **Results:** Among 55 workers, 27% experienced temporary threshold shifts (TTS) at 4 kHz after noise exposure. Mean hearing threshold shifts at 1000, 2000, 3000, and 4000 Hz were not statistically significant. The highest shift was at 4000 Hz (1.6 dB), with TTS greater than 10 dB was most common at this frequency. Factors like age, smoking, earphone use, and ear infections did not significantly affect TTS. Noise exposure of 4-6 hours significantly increased TTS risk. Earplug use significantly reduced TTS at 4000 Hz from 27% to 12.7%, and at 1000 Hz from 14.6% to 9.1%, showing their effectiveness in preventing TTS. **Conclusion:** The significant reduction in TTS at 4 kHz with earplug use highlights their pivotal role in safeguarding against noise-induced hearing damage. Addressing this frequency-specific vulnerability is crucial for protecting workers' hearing health in noisy environments.

199. Matola, R.R. (2024). Prevalence and Factors Associated with Depressive symptoms among Public Primary School Teachers in Ubungo District, Dar Es Salaam-Tanzania. Muhimbili University of Health and Allied Sciences.

ABSTRACT

Background: Mental illness is one of the leading causes of disease burden in the world. In poor countries like the sub-Saharan countries, mental illness poses more effect because there is no enough funding and planning for screening and management of mental illness. Depression is among the most common mental disorders in the world. Teaching is one of the highly demanding professions and one that is less rewarded in Tanzania. Teachers are at risk of suffering from depression, if no proper intervention plans are put in place. There is no study assessing the prevalence of depressive symptoms among public primary school teachers in Tanzania and therefore this study looks to fill that knowledge gap. **Objective:** This research aimed to determine the prevalence of depressive symptoms, and its associated factors among public primary school teachers in Ubungo district, Dar-es-Salaam-Tanzania **Methods:** A method of descriptive, cross-sectional study was carried out among public primary school teachers in Ubungo district, Dar-es-Salaam-Tanzania in 2024. Multi-stage random sampling was used to select participants from the public primary schools in Ubungo. A socio-demographic tool was used to collect social data from the participants. Cut down, Annoyance, Guilt, Eye opening (CAGE), Minnesota Satisfaction Questionnaire-short form (MSQ-SF), Multidimensional Scale of Perceived Social Support (MSPSS), Life Events Checklist (LEC-5) tools were also used in data collection for independent variables, and Patient Health Questionnaire (PHQ-9) was used for the dependent variable. Data cleaning and coding was done using Statistics and Data (STATA) version 23. Data was summarized using descriptive statistics, and the associations were done using a chi-square test by running bivariate and multivariate regression analyses where a P-value of less than 0.05 was considered significant statistically. **Results:** 321 teachers participated in this study from 42 public primary schools across all 14 wards in Ubungo District. About seven out of ten participants (68.8%) were female. In every hundred teachers, 27 had depressive symptoms. Of all the

associated factors, only chronic illness and monthly income had association with depressive symptoms of statistical significance. It showed that a teacher with a monthly income between five hundred and one million Tanzanian shillings had two times increased odds of having depressive symptoms, and teachers with at least one chronic illness had two times increased odds of having depressive symptoms. **Conclusion**: As shown in this study, the prevalence of depressive symptoms among public primary teachers is relatively high with about a quarter of participants scoring positive for depressive symptoms. Having an average income has shown to increase the odds for having depressive symptoms, and having at least one chronic illness puts teachers at higher odds of having depressive symptoms.

200. Matunda, M. (2024). Factors Associated with Compliance to Antenatal HIV re-testing among Postpartum Women at Buguruni Health Centre in Ilala Municipal Council, Dar es Salaam, Tanzania. Muhimbili University of Health and Allied Sciences.

ABSTRACT

Introduction: Human Immune Virus **(HIV)** re-testing at birth has the potential to decrease rates of mother-to-child transmission by identifying mothers who seroconvert after having tested negative in early pregnancy. Current guidelines recommend the inclusion of HIV testing in routine screening tests for all pregnant women. For this reason, antenatal care (ANC) represents a vital component of efforts to prevent mother-to-child transmission (PMTCT) of HIV. Despite being a national policy in Tanzania, the available data suggest that the implementation rate is low. **Aim:** The purpose of this study is to assess factors associated with antenatal HIV re-testing compliance among postpartum women in Ilala Municipality, Tanzania. **Methods:** A quantitative approach employed an analytical cross-sectional study design for 308 postpartum women who were selected using a systematic sampling method. Data were collected by using a structured questionnaire and analyzed using SPSS version 25 Descriptive statistics, including mean, standard deviation. Bivariate and multivariate logistic regression

analysis was performed to identify potential predictors among the variables. **Result:** Of 308, women with a mean age of 26.3(SD±5.3) who were surveyed, (203, 66.6%) complied with HIV retesting during pregnancy. The study found that women aged 25 and above, with secondary to college education, and primipara were more likely to undergo HIV re-testing. Attending four or more ANC visits, being informed about re-testing at 32-36 weeks, having social support, confidence in re-testing with a partner, and lack of perceived stigma contributed to higher re-testing odds. **Conclusion and Recommendations:** The study came to the conclusion that factors that greatly improve compliance with HIV retesting include age, education, primiparity, more ANC visits, timely information, social support, partner confidence, and less stigma. Therefore, give priority to programs that provide social support and education in order to improve compliance with HIV retesting, particularly for older adults and first-time moms who have more antenatal care visits.

201. Maulidi, F. (2024). Prevalence of anaemia and its associated factors among patients with chronic kidney disease at Mnazi Mmoja and Tasakhtaa Hospitals, Zanzibar. Muhimbili university of health and Allied Sciences.

ABSTRACT

Background: Anaemia from chronic kidney disease contributes to greater morbidity, mortality, and quality of life. Chronic kidney disease, a worldwide health burden, has huge economic consequences for healthcare systems and sufferers' families. To the best of my knowledge, no study has been done on the prevalence, clinical characteristics, and associated factors of anaemia among chronic kidney disease patients in Zanzibar. **Objective:** This study is intended to estimate the prevalence of anaemia and its associated factors among patients with chronic kidney disease at two selected hospitals in Zanzibar. **Methods:** A descriptive cross-sectional study design was conducted in two hospital settings among non-dialysis CKD patients (18 years of age and older), from stages 1 to 5. Convenience recruitment was conducted among 195 patients with CKD who attended the outpatient renal clinic, including those admitted to the wards at two

selected hospitals in Zanzibar. In data collection, a Swahili-translated questionnaire was used to obtain socio-demographic data, and a checklist was used to obtain important past medical records and laboratory parameters. The data were initially recorded in Excel and then imported into SPSS version 26 for analysis. Descriptive analysis summarized baseline characteristics, with continuous variables summarized by mean and standard deviation and categorical variables presented as frequencies, percentages, and charts. Pearson's chi-square test or Fisher's exact test were used to find the associations between sociodemographic and clinical factors among anaemic and non-anaemic CKD patients. To find the independent factors associated with anaemia in people with chronic renal disease, both univariate and multivariate modified poissons regression analyses were utilized. At a value of p below 0.05, all significance levels were established. **Results:** A total of 195 participants were included to estimate the prevalence of anaemia among chronic kidney disease patients. The mean age of all participants was 55.8 ± 13.1 years. The prevalence of anaemia was 91.3% [95% CI (86.5-94.5)], and anaemia increased as kidney function declined. After adjusting for other confounders: Mode of payment, whereby patients treated in the hospital free of charge (APR = 1.14, 95% CI: 1.01–1.29, p = 0.033) were 1.14 times more likely to develop anemia compared to those with health insurance coverage. Additionally, in educational level, compared to patients with college or university education, those with primary education or no schooling (APR = 1.29, 95% CI: 1.05–1.57, p = 0.015) were 1.29 times more likely to develop anemia and those with secondary education (APR = 1.23, 95% CI: 1.003–1.51, p = 0.047) were 1.23 times more likely to develop anemia. **Conclusion:** This study discovered that the majority of CKD participants were anemic, confirming that anaemia is a common comorbidity among CKD patients in our environment. Anaemia was common at all stages of chronic renal disease and exacerbated by a steady reduction in kidney function. Patients who received free hospital care were more likely to acquire anaemia than those who had health insurance. **Recommendations:** Healthcare institutions should lead improvements in several areas of CKD care, particularly early detection and treatment, and should implement periodic screening and intervention programs to prevent anemia among CKD patients. Policymakers and government support should develop anaemia preventive

policies relevant to the country's context, and measures to increase health insurance coverage should be implemented to improve the quality of care, particularly in hospitals that provide free CKD services.

Keywords: Anaemia, chronic kidney disease, prevalence, Zanzibar.

202. Mayala, C.M. (2024). Implementation of national health policy in managing malnutrition among under five children by using integrated management of acute Malnutrition at Kishapu District, Muhimbili university of health and Allied Sciences.

ABSTRACT

Background: Acute malnutrition among children under five is still a serious public health concern worldwide. Estimates suggest that if there were zero acute malnutrition, the global burden of disease (GBD) could be lowered by 32%. Tanzania is still one of ten developing countries in Sub-Saharan Africa with a persistently high prevalence of acute malnutrition among under five children, despite the promotion of integrated management of acute malnutrition. **Objective:** To assess the implementation of the National Health Policy in managing malnutrition among children under five by using Integrated Management of Acute Malnutrition at Kishapu District Hospital. **Methodology:** Qualitative exploratory case study conducted at Kishapu District Hospital. A purposive sampling strategy was used to select the study participant which included five clinicians, three nurses, one nutrition officer and one social worker in Key informant Interview also here was one FGD of seven participants together with document review, all used in information gathering process. Data were analyzed using qualitative content analysis approach **Results:** The study found that, at Kishapu District Hospital, the implementation of National Health Policy by using IMAM guideline in managing malnutrition to under-fives is being conducted daily. Three categories emerged from study analysis as follows; One, Procedure in identification of acute malnutrition. Two, Productiveness of IMAM in managing acute malnutrition, thirdly, the barriers for IMAM implementation **Conclusion:** This study offers a proof of the implementation of National Health policy to

the primary healthcare institution in a rural Tanzanian environment when it comes to controlling malnutrition utilizing the IMAM guidelines. It supports research on the importance of efficient early detection techniques and IMAM guideline application. As per the IMAM national guideline, the Kishapu district hospital's implementation of the guideline generally has low upholding the fundamental criteria of maximum coverage and access, as well as timeliness.

203. Mbalamwezi, M. (2024). Perceived factors for non-disclosure of school related sexual violence on advanced level secondary school girls in Sumbawanga Municipality, Rukwa Region-Tanzania, Muhimbili university of health and Allied Sciences.

ABSTRACT

Background: Sexual violence in schools remains invisible limiting the interventions to end violence in schools which are gender geared depriving the rights of girls to acquire quality and equitable education. Response to any form of sexual related violence depends on disclosure of the problem which is determined by individual, family, and community factors. **Objective of the study:** To explore perceived factors for non-disclosure of school related sexual violence on Advanced Level secondary school girls. **Methods:** An explanatory qualitative study design using qualitative method in data collection was used. Purposive sampling technique was used for selecting police gender desk officers, lawyers, social walfare officers, and teachers while convenient sampling technique was used for parents and advanced secondary school girls. In-depth interviews were used to collect data from 40 participants (students, teachers, ward executive officers, social welfare officers, police gender desk officers, parents and legal officer) based on the principle of saturation level of the information. The thematic analysis approach was used in analyzing the data. The findings were presented in forms of themes and subthemes. **Results:** The study findings revealed several perceived factors for non-disclosure of school related sexual violence on advanced Level secondary school girls in Sumbawanga Municipality. These factors are grouped into individual factors such as feelings of shame,

a low level of awareness, fear of retaliation and repercussions; family factors such as maintaining family reputation, poverty, social stigma and rejection, informal negotiations at the family level, lack of family support, and community factors, which include cultural norms and beliefs and maintaining school reputation. **Conclusion:** Non-disclosure of sexual violence remains a public health challenge in Sumbawanga municipality. This has been influenced by feelings of shame, a low level of awareness, fear of retaliation and repercussions. The school administration in collaboration with the Sumbawanga municipal education office should provide comprehensive training for teachers and parents on how to help students handle fear through trauma-informed approaches. Additionally, the community leaders in collaboration with the Sumbawanga

204. Mbelekwa, K. (2024). Chronic myeloid leukemia in Tanzania: clinical profile and five-year survival. Muhimbili university of health and allied sciences.

ABSTRACT

Background: Many patients with CML in Tanzania present with a bulky disease at diagnosis. However, limited information is available on the specific burden of CML in Tanzania. Despite over 20 years of CML treatment in Tanzania, little is known about the sociodemographic profiles, clinical characteristics, and survival of patients with CML in Tanzania. Currently, only ORCI and KCMC are the two institutions in Tanzania that receive free Tyrosine Kinase Inhibitor medications thanks to a donation from the Max Foundation. With this exclusive availability of medications in these two hospitals, more CML cases are likely to be attended in these hospitals compared to the past years. This study aims to investigate the disease burden and epidemiologic trends of chronic myeloid leukemia (CML) in Tanzania to bridge the knowledge gap between what is already known and the unknown about the disease in our locality. **Objective:** To determine the trend of CML incidence and the five-year overall survival of the patients who attended ORCI between January 2015 to December 2023.**Materials and methods:** This was a retrospective analysis of patients diagnosed and treated for chronic myeloid leukemia at Ocean Road Cancer Institute (ORCI) for the past 9 years. All patients with a

histologically confirmed diagnosis of chronic myeloid leukemia from 2015 to 2023 were included. Data was gathered from the digital hospital record system and files of patients. Data was analyzed using STATA version 17. Descriptive statistics such as percentage and mean were used to describe the demographic, clinical, and laboratory characteristics of the patients. The chi-square test was used to test the trend in a number of new CML cases at ORCI between 2015 to 2023. Kaplan Meier estimation was used to determine the survival. A p-value of 0.05 was used to assess the significance of the obtained results. **Results:** The study analyzed 340 CML patients at ORCI's clinic in Tanzania. The number of new patients increased linearly between 2015 and 2023, with a dip during the COVID-19 pandemic. Younger patients predominate with a mean age of 38.5 years at diagnosis, highlighting the socioeconomic impact. The study found a high 5-year survival rate of 90.6%, comparable to high-income countries. Factors associated with CML survival included age at diagnosis, absolute monocyte count, and percentage of blasts at diagnosis. The study highlights the need for sustainable CML treatment and better patient tracking in low -resource setting. **Conclusion:** Chronic Myeloid Leukemia is among the most frequently diagnosed leukemia in Tanzania. The data reveals an upward trend in CML cases at ORCI from 2015 to 2023, likely due to improved diagnostics and decentralized services. Younger patients predominate, highlighting the socioeconomic impact. Survival rates are promising; however, challenges persist in the sustainability of the treatment program**Keywords**: Chronic Myeloid Leukemia (CML), Tanzania, Five-year Survival, Tyrosine Kinase Inhibitors (TKIs), Ocean Road Cancer Institute (ORCI)

205. Mbelekwa, K. (2024). Chronic myeloid leukemia in Tanzania: clinical profile and five-year survival. Muhimbili University of health and allied sciences.

ABSTRACT

Background: Many patients with CML in Tanzania present with a bulky disease at diagnosis. However, limited information is available on the specific burden of CML in Tanzania. Despite over 20 years of CML treatment in Tanzania, little is known about the sociodemographic profiles, clinical characteristics, and survival of patients with CML in

Tanzania. Currently, only ORCI and KCMC are the two institutions in Tanzania that receive free Tyrosine Kinase Inhibitor medications thanks to a donation from the Max Foundation. With this exclusive availability of medications in these two hospitals, more CML cases are likely to be attended in these hospitals compared to the past years. This study aims to investigate the disease burden and epidemiologic trends of chronic myeloid leukemia (CML) in Tanzania to bridge the knowledge gap between what is already known and the unknown about the disease in our locality. **Objective:** To determine the trend of CML incidence and the five-year overall survival of the patients who attended ORCI between January 2015 to December 2023.**Materials and methods:** This was a retrospective analysis of patients diagnosed and treated for chronic myeloid leukemia at Ocean Road Cancer Institute (ORCI) for the past 9 years. All patients with a histologically confirmed diagnosis of chronic myeloid leukemia from 2015 to 2023 were included. Data was gathered from the digital hospital record system and files of patients. Data was analyzed using STATA version 17. Descriptive statistics such as percentage and mean were used to describe the demographic, clinical, and laboratory characteristics of the patients. The chi-square test was used to test the trend in a number of new CML cases at ORCI between 2015 to 2023. Kaplan Meier estimation was used to determine the survival. A p-value of 0.05 was used to assess the significance of the obtained results. **Results:** The study analyzed 340 CML patients at ORCI's clinic in Tanzania. The number of new patients increased linearly between 2015 and 2023, with a dip during the COVID-19 pandemic. Younger patients predominate with a mean age of 38.5 years at diagnosis, highlighting the socioeconomic impact. The study found a high 5-year survival rate of 90.6%, comparable to high-income countries. Factors associated with CML survival included age at diagnosis, absolute monocyte count, and percentage of blasts at diagnosis. The study highlights the need for sustainable CML treatment and better patient tracking in low -resource setting. **Conclusion:** Chronic Myeloid Leukemia is among the most frequently diagnosed leukemia in Tanzania. The data reveals an upward trend in CML cases at ORCI from 2015 to 2023, likely due to improved diagnostics and decentralized services. Younger patients predominate, highlighting the socioeconomic impact. Survival

rates are promising; however, challenges persist in the sustainability of the treatment program.

206. Mbesere, L. (2024). Assessment of prevalence and factors associated with continual substance use among patients using methadone in medically assisted treatment clinics in Dar es salaam, Tanzania. Muhimbili University of Health and Allied Sciences.

ABSTRACT

Background: Substance use is a global concern, affecting millions. Methadone maintenance therapy (MMT) is effective for treating opioid addiction, but concurrent illicit drug use remains an issue among MMT patients. In Tanzania, Medically Assisted Treatment (MAT) has been in use since 2011, yet it faces challenges with concurrent substance use, impacting treatment outcomes. **Objective:** To assess the prevalence and factors associated with continued substance use among patients using methadone in MAT centres (MNH, Mwananyamala RRH, and Temeke RRH) in Dar es Salaam.**Methods and Materials:** A cross-sectional study was conducted at three MAT clinics in Dar es Salaam: Muhimbili National Hospital, Temeke Regional Referral Hospital, and Mwananyamala Regional Referral Hospital. The study included 461 participants selected through systematic sampling from the MAT database at each hospital. Data were collected using electronic questionnaires programmed with Open Data Kit (ODK) and administered via smartphones/tablets. Data cleaning and analysis were performed using STATA version 17. Descriptive analysis provided insights into the prevalence and patterns of continued substance use. The Modified Poisson model assessed factors associated with the outcome, with covariates having a p-value < 0.2 included in a multivariate analysis. Statistical significance was determined by a p-value < 0.05.**Results**: The prevalence of continued substance use among methadone patients in MAT clinics was 52% (n=239). The most reported substances were cannabis (72%), heroin (30.1%), and alcohol (22.6%). There was a higher prevalence at Temeke RRH (65.2%) than at Muhimbili National Hospital (57.3%) and Mwananyamala RRH (36.1%).

Modified Poisson model revealed that easy access to drugs in residential areas, stigma, loneliness, depression perceived insufficiency of methadone dosage and having friends using substances were significant factors associated with continual substance use. Sources of the substance used included easy drug access in residential areas (59.3%) and pharmacies 87% where prescription medicines, such as Diazepam (65.9%,) and Tramadol (48%)were obtained.**Conclusion:** The study highlights a significant prevalence of continued substance use among methadone patients in MAT clinics in Dar es Salaam. Factors such as easy access to drugs, stigma, loneliness, depression, perceived insufficiency of methadone dosage, and social circles involving substance use are crucial in influencing continued substance use. Addressing these factors through comprehensive strategies is essential to improve treatment outcomes and reduce concurrent substance use among methadone patients in Tanzania.

207. Mbeya, C.C. (2024). Healthcare providers' perspectives on obstetric emergency preparedness at Vijibweni Hospital in Kigamboni Municipal, Tanzania. Muhimbili University of Health and Allied Sciences.

ABSTRACT

Background: While the government has launched an initiative to upgrade health facilities and train providers in obstetric emergency services, some gaps still exist in providing the much-needed instruments and materials to complete the service. These deficiencies have contributed to delays in detection that result in maternal morbidity and mortality. Very few studies have focused on the knowledge of health providers regarding obstetric emergency preparedness. **Objective:** The study aimed to identify perspectives from health providers concerning obstetric emergency preparedness at Vijibweni Hospital. **Materials and Methods:** Data were collected through a descriptive qualitative design from in-depth interviews with healthcare providers at Vijibweni Hospital, including nurse-midwives, doctors, laboratory technologists, and pharmacists. A Kiswahili semi-structured interview guide assisted the collection of data, while content analysis was applied to the data. **Results**: The study involved 16 key informants; among

all, Fourteen out of 16 healthcare providers interviewed at Vijibweni Hospital in Dar es Salaam were women. Their educational backgrounds were primarily diplomas and bachelor's degrees with various cadres, such as nurse-midwives, medical officers, lab technologists, and pharmacists. Five categories emerged, such as perceived consequences and benefits, continuous education and training, availability of supportive systems with limited infrastructure and material resources, and a healthcare workforce prepared for an obstetric emergency. **Conclusion:** Poor infrastructure, lack of supplies, and appropriate referral mechanisms, along with shortages of health staff adversely influence preparedness on obstetric emergencies. Continuous education and strong support systems, on the other hand, improve patient outcomes, increase safety, and boost a hospital's reputation.

208. Mbilinyi, E.N. (2024). Early post-cardiac surgery mortality and associated risk factors among children with heart diseases operated at Jakaya Kikwete cardiac institute Dar es salaam. Muhimbili University of Health and Allied Sciences.

ABSTRACT

Background: Cardiac surgery is a lifesaving intervention for children with heart diseases. Despite the technological advancement, they carry variable outcomes with significant mortality in resource-limited settings. Broad **Objective:** To determine the early in-hospital mortality and associated risk factors among children with heart diseases operated at Jakaya Kikwete Cardiac Institute from January 2018 to December 2022. **Methodology:** This was a hospital-based retrospective cohort study. All medical records of children with heart diseases operated at JKCI were reviewed. A checklist was used to extract in-hospital preoperative, operative and post-operative data. Data analysis was performed using STATA software version 14.2. Categorical variables were summarized using frequencies and percentages, whereas continuous data were analysed using mean with standard deviation or median with interquartile range. Univariate and multivariate Cox regression hazard models were used to determine the risk factors for early post-cardiac surgery mortality. A p-value less than 0.05 was considered statistically

significant. **Results:** In this study, of 715 children with heart disease who underwent cardiac surgery, the median age at diagnosis was 1 year (IQR: 0.5-4), and at surgery, it was 3 years (IQR: 1-7). About 632 patients (88.4%) had congenital heart disease, predominantly acyanotic (60.6%). Common procedures included VSD closure (29.5%) and TOF repair (22.7%). Sixty-three children (8.8%) died within 30 days, resulting in a mortality rate of 7.2 per 1000 person-days. Infants had a significantly higher mortality rate of 18.4 per 1000 person-days. The risk factors for mortality included post-surgery arrhythmia (hazard ratio 2.5) and mechanical ventilation for more than 24 hours (hazard ratio 6.5). Conversely, an ICU stay exceeding 5 days reduced the mortality risk by 63%. Major causes of death included arrhythmia, AKI, respiratory failure, and sepsis. **Conclusion and recommendation:** The study highlights the significant mortality risk among children undergoing cardiac surgery, particularly in infants and those with postoperative complications, such as arrhythmia and prolonged mechanical ventilation. The findings underscore the need for careful monitoring and management of these high-risk groups to improve surgical outcomes.

209. Mbilinyi. N.M. (2024). Clinical profile and mortality among children with aplastic anemia admitted at Muhimbili National Hospital – Tanzania. Muhimbili University of Health and Allied Sciences.

ABSTRACT

Background: Aplastic anemia (AA) is a relatively rare hematological disease, presenting with pancytopenia and unexplained hypo-cellularity in bone marrow. It is a condition with a high mortality rate if left undiagnosed and untreated. There is inconsistency in findings from previous studies regarding the clinical profile and factors associated with mortality among patients with AA. **Objectives:** The main aim was to find out the clinical profile and factors associated with mortality among children with AA admitted to Muhimbili National Hospital, Dar es Salaam, Tanzania. **Methods**: An analytical retrospective hospital-based cross-sectional study patients with AA at MNH admitted between 2016 and 2023. Records of 82 patients aged less than 18 years old were

reviewed. Information obtained included age, sex, date of diagnosis, laboratory results, treatment given, and status of living or death. Descriptive analysis was summarized using proportions and medians with interquartile ranges (IQR). The overall clinical profile was calculated with a 95% confidence interval. Chi-square and, where applicable. Logistic regression was used to determine the independent factors associated with mortality among patients with AA. A p value of < 0.05 was considered statistically significant. **Results:** The majority of patients were male (62.2%), with a median age at diagnosis of 9 years. Common clinical presentation included bleeding tendencies (61.0%) and pallor (96.3%), while laboratory findings revealed severe anemia (60.9%), neutropenia (41.4%), and severe thrombocytopenia (75.6%). Treatment strategies primarily consisted of immunosuppressive therapy with ATG, cyclosporine, Danazole, with supportive measures such as blood products and antibiotics. The mortality rate among AA patients was 48.7%. statically significant factors associated with mortality were bleeding tendency, Absolute neutrophil count (ANC) and thrombocytopenia. No association with sex nor age was found. **Conclusions:** Despite advances in treatment, mortality remains a significant concern, emphasizing the need for early detection, prompt initiation of therapy, and close monitoring of high-risk patients. Identification of prognostic factors can aid in risk stratification and targeted interventions to improve survival rates in AA.

210. Mboya, J.B. (2024). Assessment of the Implementation of National School Feeding Guideline in Tanzania: A Case of Public Primary Schools Located in Kinondoni Municipality, Dar es Salaam. Monitoring and Evaluation at Muhimbili University of Health and Allied Sciences.

ABSTRACT

Background: Globally, lack of enough food and an unbalanced diet are recognized causes of malnutrition. The situation is more pronounced among children and the most affected segment of the population is the children attending schools whether using boarding or day system. Globally, 388 million children benefit from school feeding programs. These programs have been shown to combat child hunger and support

children's overall well-being. In 2021 Tanzania launched its first National school feeding guideline with aim of providing standard guidance for schools, communities, and the local government to develop, coordinate, and oversee school feeding programs. **Broad Objective:** To assess the implementation of National school feeding guideline in Public Primary schools in Kinondoni Municipality. **Materials and Methods**: The study was conducted using a phenomenological study design and qualitative data collection methodologies. The study was conducted in 6 schools, consisting of 6 teachers, 6 students, 6 heads of schools, and 6 school feeding committees, making a total of 24 participants. Using an interview guide, a purposive sample technique was employed to choose study participants for interviews. The acquired data and findings were analyzed using a thematic analysis approach, with themes and sub-themes employed to organize them. **Results**: Four main themes emerged: Minimal student participation regarding the implementation of national school feeding guideline with two sub-themes: non-existent channels for feedback and insufficient engagement of students' interest., Limited awareness of the guideline by teachers and the school feeding committee with two sub-themes: Inadequate training and knowledge of the guideline and insufficient motivation regarding the guideline adherence of participants., Insufficient support and resources regarding the implementation of the guidelines faced by the school feeding committee with two sub-themes: financial constraints and inadequate infrastructure and equipment , and existing factors affecting the implementation of the guideline which included Political factor, Social factor, Economic factor and Cultural factor. **Conclusion**: Generally, the findings reveal la erstanding, awareness and adherence to the guidelines among school comm ch teachers, students and school feeding committee, However, gaps in formal training and resource limitations present significant challenges to consistent guideline adherence.

211. Mbwambo, D. (2024). Prevalence and factors associated with abscess and scar formation at the site of insulin injection among patients attending diabetic clinics in selected public and private hospitals in Dar es salaam. Muhimbili University of Health and Allied Sciences.

ABSTRACT

Background: More than 530 million people live with diabetes worldwide, and in Tanzania, the prevalence of diabetes among adults is 12.3%. Insulin remains the cornerstone of therapy in all type 1 diabetic patients and a substantial number of patients with type 2 diabetes mellitus. Despite the increase in the number of insulin users, there is a shortage of data in Tanzania regarding its safety, particularly for skin-related adverse complications, including abscess formation and scarring at injection sites. **Aim:** This study aimed to assess the prevalence of abscess formation and scarring at insulin injection sites and to identify the determinants among diabetic patients on insulin therapy. **Methodology**: A hospital-based cross-sectional study was conducted, involving 428 randomly selected patients on insulin therapy from two selected public hospitals (Mwananyamala and Temeke regional referral hospitals) and two private hospitals (Shree Hindu Mandal and Hubert Kairuki Memorial Hospital) in Tanzania. Sociodemographic and clinical data were collected using a questionnaire. Data were analyzed using Stata version 15.0 software, and modified poison regression was employed to determine factors associated with abscess and scar formation among patients on insulin therapy. The variables with a p-value of <0.05 in the final model were considered the main factors associated with the abscess and scarring. **Results:** The study found the prevalence of abscesses and scars were 22.2% and 46.7% respectively. Factors associated with abscess included; improper injection technique (aPR= 1.11; 95%CI:1.02-1.21, p = 0.009), occupation (particularly self-employment) (aPR = 2.34; 95%CI:1.04-5.27, p = 0.4), and improper injection site rotation (aPR = 2.7; 95%CI:1.13-6.45, p = 0.025). The use of an insulin pen was observed to be protective from abscess formation at (aPR = 0.13; 59%CI:0.04-0.48, p = 0.002). Scars were observed to be influenced by improper site rotation (aPR = 1.63; 95%CI:1.03-2.32 P = 0.037), uncontrolled blood glucose level (aPR = 1.69; 95%CI:1.01-2.84, p = 0.049), the use of insulin and syringes obtained from other places apart from at facilities patients attended clinics (aPR = 2.51; 95%CI:1.22-1.98, p = 0.035) and occupation where the self-employed had more chances of developing scars (aPR = 2.0; 95%CI:1.21-3.33, p = 0.007) followed by those with the formal employment

(aPR = 1.9; 95%CI:1.04-3.41, p = 0.036) when compared to the non-employed. **Conclusion and recommendations:** This study observed a high prevalence of abscesses and scars at injection sites among diabetic patients on insulin therapy. The factors associated with abscesses include improper injection technique, occupation(self-employment), and improper injection site rotation. The use of an insulin pen was protective against abscesses. Factors associated with the scars included improper site rotation, uncontrolled blood glucose, occupation, and sourcing insulin and syringes from the community drug outlets. Abscesses and scars adverse events can be mitigated if; healthcare staff provide education on proper injection techniques, site rotation, and regular blood glucose monitoring. The Ministry of Health, hospital management, and other stakeholders should ensure consistent supply and advocate using insulin pens. Community drug outlet healthcare staff should be trained on DM and its management to enable them to provide proper counseling to insulin users. There is a need for further studies on why occupation in particular self-employment is associated with abscesses and scars.

212. Mchau, B.G. (2024). Analgesics use for musculoskeletal pain and its associated factors among Tanesco workers in Dar es salaam, Tanzania. Muhimbili university of health and Allied Sciences.

ABSTRACT

Introduction: Analgesics are a group of medicines used for relieving pain. These drugs function by reducing the perception of pain signals within the brain. The high incidence of musculoskeletal disorders is likely to lead to a growing demand for pain management drugs. **Objective of the study:** The aim was to determine analgesics use for musculoskeletal pain and its associated factors among TANESCO workers in Dar es salaam, Tanzania. **Methods and Materials:** This is a cross-sectional study involving 329 workers who randomly sampled from six TANESCO district offices in Dar es Salaam. A structured questionnaire was used to elicit responses on types of analgesics used, frequency of analgesics uses, knowledge of analgesics, and factors at work associated the

use of analgesics for musculoskeletal pain. Modified Poisson regression approach was employed to examine the factors associated with analgesics use. **Results:** The majority of workers were aged between 18 to 50 years (92.7%). The overall prevalence of analgesics use for musculoskeletal pain was 75% and 55.67% of workers were engaged in self-medication. More than half (57.7%) of the respondents used brands which contain paracetamol, aspirin and caffeine as the active ingredients and (68.6%) used the pain killers for more than three days in a week. More than half of the respondents had a medium level of knowledge on analgesics use for musculoskeletal pain. Modified Poisson showed that the type of job performed at work and age were significantly associated with the use of analgesics for musculoskeletal pain, ($p<0.05$). Long exposure to computers' screen in the working environments was also associated with the use of analgesics for musculoskeletal pain ($p<0.05$). **Conclusion and Recommendation:** Knowledge on analgesic use and knowledge of probable serious side effects was inadequate. Pharmacists and other healthcare providers involvement in education of clients of the side effects of analgesics is highly recommended to minimize misuse. The Medicines and Medical Devices Authority should regulate the availability of analgesics in the market, especially in non-health facilities.

213. Meivukie, C.P. (2024) the financial burden of out-of-pocket medical expenditure among members of the national health insurance fund in Dar es Salaam. Muhimbili University of Health and Allied Sciences.

ABSTRACT

Background: The National Health Insurance Act, Cap 395, established the National Health Insurance Fund (NHIF), which is a social health insurance scheme to guarantee Tanzanians' access to medical treatment. Whilst the core purpose of health insurance is to shield individuals from high and unpredictable costs of healthcare, out-of-pocket expenditure (OOPE) among NHIF members is a major setback to achieving financial protection. **Aim:** To estimate the financial burden of OOPE among patients enrolled in NHIF schemes who are treated in health facilities in Dar es Salaam. **Methods:** A cross-

sectional study was conducted at Rabininsia and Mwananyamala Hospitals in Dar es Salaam with a sample size of 427 NHIF patients. Quantitative data was collected and analyzed. The mean (+SD) or median (Range) OOP costs were estimated, as well as their distribution across different social demographic factors. A 10% income threshold was used to estimate Catastrophic Health Expenditure (CHE). The analysis was done in STATA version 18, and the Chi-square test and logistic regression were used to assess the association between variables. **Results:** 54.8% of the respondents incurred OOPE the last time they visited health facilities, and about 6.0% of them incurred OOP that can be categorized as CHE. The majority of those who experienced CHE were in the private employees' category of NHIF membership. Severely and chronically ill patients were more likely to incur OOP payments compared to mildly ill and with acute illness. i.e., (OR=2.29 & OR= 2.21), respectively. Widowed individuals were 3 times more likely to make OOP payments compared to married couples (OR = 3.21, 95%CI 1.05, 9.77). Participants living far from the facility were more than two times more likely to incur OOPE compared to those living nearby (OR = 2.33, 95% CI 1.56, 3.48). vi Conclusions: Despite efforts to reduce OOP payments and promote financial protection, a significant proportion of NHIF members still incur OOP health expenditures, which exposes them to CHE. Effective strategies to mitigate these disparities include improving primary healthcare services to achieve equitable access and financial protection. More importantly, corrective measures need to be enacted to ensure all NHIF members are equitably protected from OOP and CHE regardless of the categories to which they belong.

214. Mekere, M.S. (2024) Evaluation of practice of morbidity and mortality meetings and associated factors among healthcare workers at tertiary teaching hospitals in Tanzania. Muhimbili University of Health and Allied Sciences.

ABSTRACT

Background: Morbidity and Mortality (M&M) meetings are among the most powerful teaching tools and cornerstones for surgical and medical training and learning. They

provide a platform for healthcare organizations and trainees to discuss adverse incidents and management failures in patient care that may have led to complications or death. Studies have shown that the majority of M&M meetings are focused on maternal and perinatal care, as opposed to other medical disciplines. In Africa, healthcare practices are still inadequate, compromising the quality of care. M&M meetings are crucial for assessing the quality of care, but there is little information regarding their existence, performance, and the practical barriers to their implementation across all medical disciplines. This study evaluated the practice of M&M meetings and the factors associated with them among healthcare workers (HCWs) at tertiary teaching hospitals in Tanzania. Aim: To evaluate the practice of morbidity and mortality meetings and its associated factors among HCWs at a tertiary teaching hospital in Tanzania. Methodology: This was a cross-sectional study conducted at Muhimbili National Hospital (MNH), Muhimbili Orthopedic Institute (MOI), and Kilimanjaro Christian Medical Centre (KCMC). Using consecutive sampling, 300 HCWs were enrolled in the study from June to November 2023. A total of 14 M&M meetings were observed among the three institutes using a structured observation checklist to evaluate the institutional practice. A standard questionnaire assessed HCWs' awareness, knowledge, attitude, and perception of M&M meetings. Data collection and analysis using SPSS version 26 included bivariate and multivariate analyses with independent factors identified using logistic regression models at p-values <0.05. **Results:** Only eight meetings in eight of the enrolled departments from KCMC, five meetings in seven of the enrolled departments from MNH, and one meeting from MOI were observed in a period of five months. The practice of conducting M&M meetings was found to be adequate only in five of the 14 observed meetings. Most participants (96.7%) reported xiii having heard about M&M meetings, 80.7% of participants perceived the practice of M&M meetings as effective, and 92.8% had a positive attitude toward the practice. However, the overall knowledge was low, and only 21.0% had adequate knowledge. In bivariate analyses, sex, age, cadre, years of experience, knowledge, and perception were strongly associated with the regular participation of HCWs in M&M meetings. Doctors and specialists showed a higher proportion of regular participation compared to nurses (95% CI: 1.33-5.32, p = 0.01), and

(95% CI: 5.45-30.55, p= 0.00), respectively. Participants with positive perceptions had a higher likelihood of regular participation (95% CI;2.05-22.41, p=0.00). Logistic regression analysis revealed that only adequate knowledge was independently associated with regular participation (AOR= 265.58, 95% CI; 59.71-1181.13, p=0.00). **Conclusion:** The study revealed a significant gap in adherence to guidelines and inadequate practice of M&M meetings. Healthcare workers who have adequate knowledge about these meetings were more likely to participate regularly. Aligning local practices with international guidelines from the World Health Organization (WHO), national or evidence-based guidelines can help standardize M&M processes, promote consistency in quality improvement efforts, and ultimately contribute to enhanced patient safety and outcomes within Tanzanian healthcare settings. Furthermore, the study has highlighted the importance of educational interventions among HCWs to promote regular participation and enhance the effectiveness of M&M meetings.

Keywords: morbidity and mortality (M&M) meetings, healthcare workers (HCWs).

215. Mfuru, G. H. (2024). Prevalence and factors associated with burnout among healthcare providers at Kasulu district in Kigoma region. Muhimbili University of Health and Allied Sciences.

ABSTRACT

Background: Burnout among healthcare providers is a critical issue affecting well-being and the quality of care they provide. However, there is limited information on burnout among primary healthcare providers in Tanzania. These findings provide valuable data for the development of preventive interventions for burnout among health workers. **Objectives:** The primary objective of this study was to determine the prevalence and factors associated with burnout among healthcare providers at Kasulu District. **Methodology:** Analytical cross-sectional study employing stratified random sampling technique by cadre was conducted from January to June 2024 among 268 healthcare providers in Kasulu District. Cadres involved were nurse, clinicians, laboratory and pharmacy professionals. Data were collected using pretested structured questionnaires.

Prevalence of burnout was assessed using by Maslach Burnout Inventory-Human Services Survey tool. Modified Poisson regression modal was used to identify factors associated with burnout. **Results:** Participants' median age was 32 years (interquartile range 27-37). Burnout prevalence was 54.5% (95%CI: 48.5%-60.4%), higher among nurses (61.3%), those living off-site (69.6%), considering quitting carrier (86.2%). Significant factors associated with burnout were age 21-30 years (adjusted prevalence ratio-(aPR) 1.55, 95% CI 1.06-2.27), living off-site (aPR 1.23, 95% CI 1.02-1.49), regretting career choice (aPR 1.87, 95% CI 1.47-2.38), 6 months to 2 years of experience (aPR 1.44, 95% CI 1.12-1.86), dissatisfaction with salary (aPR 1.77, 95% CI 1.02-3.07, p=0.041), bad colleague relationships (aPR 1.25, 95% CI 1.03-1.51), ≥4 night shifts/ week (aPR 2.54, 95% CI 1.33-4.86), attending ≥41 clients daily (aPR 1.52, 95% CI 1.06 2.19), and lack of academic growth (aPR 1.62, 95% CI 1.15-2.29). **Conclusion:** Over half of the healthcare providers experienced burnout. Younger providers, nurses, those living off-site, regretting career choices, with less experience, having poor colleague relationships, working more night shifts, seeing many patients daily, were at higher risk of burnout. **Recommendations:** Health care authority and stakeholders to provide career counseling, onsite housing, and mental health support programs, and increasing the number of healthcare providers to mitigate burnout.

216. Mganga, G.M. (2024). Computed Tomography Patterns, Magnitude, And Associated Risk Factors of Brain Atrophy in Adult Patients Undergoing Head Computed Tomography Scans at Muhimbili National Hospital. Muhimbili University of Health and Allied Sciences.

ABSTRACT

Background: Brain atrophy poses a significant health concern for adults in Tanzania, emerging as a prominent issue affecting approximately 13% of the population based on prior studies. Furthermore, the prevalence of this condition is projected to rise in the foreseeable future due to the intricate interplay of various genetic, environmental, and psychosocial factors that accelerate the progression of cerebral atrophy. To effectively

address this growing problem, it becomes imperative to comprehend the manifestation of brain atrophy, identify associated risk factors, and analyze CT findings. Such understanding will serve as a crucial foundation for developing comprehensive preventive and management protocols in healthcare centres across the country**. Objective:** The broad objective of this study was to determine the computed tomography patterns, magnitude, and associated risk factors of brain atrophy in adult patients undergoing head computed tomography scans at MNH from January 2020 to December 2022.**Material and Methods:** This study utilized data from 240 adult patients who had undergone head CT scans for various medical reasons. The participants were selected randomly from the hospital's database. Data collection was carried out using a specially designed checklist that was encoded into SOLSTICE software. The gathered data underwent descriptive analysis, encompassing both categorical and continuous variables. Fisher's exact tests were deployed to compare proportions, and binary logistic regression analysis was used to assess the strength and direction of the relationship between dependent and independent categorical variables. A p-value less than 0.05 was regarded as indicative of statistical significance. **Results:** The study included data from 240 adult patients who had undergone head CT scans due to various medical indications. The mean age was 51.1 ± 17.3 years. The majority of the participants were slightly male and were those aged above 64 years. The prevalence of brain atrophy was 36.3%. While brain atrophy was not significantly associated with factors like hypertension or smoking, those with brain atrophy experienced higher rates of visual impairment, depression, gait disturbance, cognitive decline, and dementia. Radiological abnormalities, including ventricle enlargement, sulci widening, parahippocampal fissure dilation, temporal horn enlargement, and white matter thinning, were also more common in individuals with brain atrophy. **Conclusion:** This study reveals the prevalence of brain atrophy in adults who underwent head CT scans for a range of medical indications and underscores its significance by investigating related risk factors and concurrent conditions like hypertension, diabetes mellitus, and drug use. **Recommendation:** Combining head CT scans with advanced imaging like PET MRI and nuclear medicine could be used to provide valuable insights for the diagnosis and treatment planning of brain atrophy**.**

217. Mgumia, S. (2024). Magnitude of unmet healthcare needs of the elderly in Temeke district using the frailty. Muhimbili University of Health and Allied Sciences.

ABSTRACT

Background: It is uncertain if the frailty rate of the elderly population in Tanzania (7.3% to 19.1%) matches the rate of unmet health needs of this population; if it does, it will effectively aid in structuring strategic policy vision for their care. **Objective:** To estimate the magnitude of unmet healthcare needs of the elderly in Temeke District by using the frailty index as a determinant. **Methods:** An analytical cross-sectional study of 237 elderly population (60+ years) in Temeke district determined the prevalence of unmet health needs using the frailty index. Using a stratified multiple and random sampling, we estimated the prevalence estimates presented by percentage and 95% Confidence Interval. Using IBM SPSS version 25, logistic regression was employed to identify factors associated with unmet healthcare needs, presenting Odds Ratios and 95% confidence intervals. **Results:** The mean age of participants was 69 years ±8SD, and 42.19% (n=100) were women. The prevalence of frailty was 5.06% (n=12;95%CI;2.9 - 8.6), while the proportion of unmet healthcare needs was statistically high at 51.05% (n=121;95%CI;44.7 – 57.6). Distance and transportation challenges were the main barriers to accessing healthcare. **Conclusion:** The prevalence of frailty was relatively low and may not be a good proxy measure of unmet healthcare needs. It is plausible that those with severe frailty are more likely to die early and, hence, affect the prevalence estimate. A multifaceted approach by a collaboration of health, social welfare, rural/urban development and legal sectors may be necessary to strategize how to estimate the health needs of elderly citizens, hence its use in the policy.

218. Mhagama, L.L. (2024). Clinical profile and factors associated with 24-hours in-hospital mortality among adult trauma patients in need of emergency blood transfusion presenting to the emergency department of a Tanzanian tertiary hospital. Muhimbili University of Health and Allied Sciences.

ABSTRACT

Background: Globally trauma claims more lives than HIV/AIDS, tuberculosis, and malaria combined. Trauma patients with acute blood loss need timely blood transfusion because they have high chance of early (24-hours) mortality. Nearly half of the early death (24-hours) can be avoided by timely and adequate blood transfusion. In many Low-and-Middle Income Countries the availability of blood/blood product(s) for emergency transfusion is an ongoing challenge. The study purpose was to determine the clinical profile and outcome-related factors among adult trauma patient in need of an urgent blood transfusion presenting to the emergency department of a tertiary hospital in Tanzania.**Study objective:** To determine Clinical profile and factors associated with 24-hours in-hospital mortality among adult trauma patients in need of emergency blood transfusion presenting to the emergency department of a Tanzanian tertiary hospital. **Methodology:** Prospective descriptive cohort study conducted from March 2024 to June 2024 involved adult trauma patients in need of emergency blood transfusion presenting to the emergency department of a tertiary hospital in Tanzania. The indications for emergency blood transfusion were severe pallor, ongoing bleeding and/or a hemoglobin level of less than 5g/dl. Participants who met the inclusion criteria were enrolled, monitored during their stay in the emergency department, and followed up for 24 hours for the outcome of mortality. IBM SPSS version 26 statistical software was used for analysis. Descriptive analysis was summarized as frequencies and median with interquartile range (IQR). Chi-square and fisher's exact test were performed and all variables with p-value<0.05 were further analyzed in multivariate analysis to control confounders. A p-value of less than 0.05 at 95% Confidence Interval was considered to be statistically significant. **Results:** A total of 252 adult trauma patients in need of emergency blood transfusion were enrolled in the study. Their median age was 37 (IQR=30-47) years. Ninety-eight percent of the participants received blood transfusions at the Emergency Department. The 24-hours in-hospital mortality was 8.33%. Adult trauma patients in need of emergency blood transfusion presented with Glasgow Coma Score<9, were more likely to die (AOR=25.75, CI 95% 7.13-93.08, p-value <0.001)

compared to those with Glasgow Coma Score of 9 and above. Those with a combination of severe pallor with ongoing bleeding and hemoglobin level<5g/dl were more likely to die (AOR=11.42, CI 95% 2.86-45.59, p-value <0.003) compared to those with severe pallor. Additionally, those who received less than the requested number of units by the clinician were more likely to die (AOR=10.48, 95% CI 2.27-48.28. p-value 0.003) compared to those who received the exact number of units ordered by the clinician. **Conclusion and Recommendations:** The 24-hours in-hospital mortality among adult trauma patients in need of emergency blood transfusion was higher than that reported by other studies in Low-middle-income countries. The factors associated with the 24-hours in-hospital mortality among adult trauma patients in need of emergency blood transfusion were patients presented with Glasgow Coma Score<9, those who received less than the ordered number of units of blood/blood product(s) by the clinician, and those having a combination of severe pallor with ongoing bleeding and hemoglobin<5g/dl. The study recommends that, adult trauma patients in need of emergency blood transfusion require adequate transfusion of number of units of blood/blood product(s) as ordered by the clinician, proper evaluation and close monitoring of those with Glasgow Coma Score<9, and those who have a combination of severe pallor, Hb<5g/dL and ongoing bleeding.

219. Mhando, J. (2024). Prevalence and severity of temporomandibular disorders among patients with otological manifestations attending Muhimbili national hospital. Muhimbili University of Health and Allied sciences.

ABSTRACT

Background: Temporomandibular disorders encompass the temporomandibular joint and stomatognathic muscular disorders. Temporomandibular disorders may have non-otological and otological symptoms mainly due to anatomical, embryological and functional commonness between the ear structures and the masticatory system. There is paucity of data especially in our locality regarding temporomandibular disorders and its manifestations especially the otic ones; thus necessitating determination of its prevalence and severity among patients with otological manifestations and eventually improve

management of patients. **Objective:** This study aimed at determining the prevalence and severity of temporomandibular disorders among patients with otological manifestations attending Muhimbili National Hospital. **Methodology**: A total of 288 patients were enrolled in this cross-sectional study. A structured questionnaire (Fonseca) which had ten anamnestic questions was employed for data collection. The diagnosis was made by comparing the total score to the Fonseca anamnestic index severity categories as mild (20-40), moderate (45-65), and severe (70-100). Patients who had scores of 0-15 were regarded as having 'No temporomandibular disorder'. Other information such as demographics and clinical characteristics were collected. A logistic regression was used to investigate the relationship between number of otological manifestations and diagnosis of temporomandibular disorder. Similarly, ordinal multinomial logistic regression was conducted to investigate the relationship between the number of otological manifestations and severity of temporomandibular disorders. **Results**: The prevalence of temporomandibular disorders was 61.46%. Out of 177 patients who had a diagnosis of temporomandibular disorder; 105 (59.32%) had mild temporomandibular disorder, 51(28.81%) had moderate temporomandibular disorder, and 21(11.86%) had severe temporomandibular disorder. In an adjusted analysis, there was a statistically significant relationship between a number of otological manifestations (Odds ratio=1.470, p-value=0.0066), parafunctional habit (Odds ratio=2.372, p-value= 0.0143) and the diagnosis of temporomandibular disorder. In ordinal multinomial logistic regression, being female (Odds ratio=0.514, p-value=0.0307) and the number of otological manifestations (Odds ratio=0.532, p= 0.001) was associated with severity of temporomandibular disorder. **Conclusion and recommendation:** Temporomandibular disorders were prevalent (61.46%) from our study. Majority; 105 (59.32%) of patients had mild temporomandibular disorder and few; 21(11.86%) had severe temporomandibular disorder and significant association was found between the number of otological manifestations; diagnosis and severity of temporomandibular disorders. Otorhinolaryngologists should be more vigilant and inquire about symptoms and signs of temporomandibular disorders in patients presenting at Otorhinolaryngology clinic.

220. Mhaya, J.K. (2024). Quality of life and the associated determinants among adult patients with urolithiasis attending Muhimbili National Hospital. Muhimbili University of Health and Allied Sciences.

ABSTRACT

Introduction: Urolithiasis, a common urinary condition, varies in prevalence globally from 1% to 20%. Treatment options include extracorporeal shock wave lithotripsy, ureterorenal copy contact lithotripsy, percutaneous nephrolithotomy, and open surgical procedure for larger stones. However, the current care approach lacks integration of patient-reported outcomes, alignment with treatment preferences, and resource optimization. Clinical aspects receive more focus in the evidence, while understanding patient quality of life (QoL), disease impact, and treatment effects remains insufficient. Objective: This study aimed at determining the factors that influence the QoL and predictors of QoL among urolithiasis patients undergoing treatment at Muhimbili National Hospital. **Methodology:** An analytical cross-sectional study involving patients with stone-related issues between October 2023 and March 2024 was carried out in Muhimbili National Hospital. Patients completed stone history surveys and SF-36 questionnaires to assess Quality of life. Data were cleaned and analyzed using SPSS version 27. **Results:** This study included 103 patients meeting inclusion criteria, with a mean age of 47 years (SD = 11.8). The proportion of urolithiasis was 0.67%. Gender distribution was 52.4% male and 47.9% female. The median BMI was 25.7 kg/m2, with 54.4% falling within the normal weight range. Stone-related factors included 85.4% first-time stone formers and 14.6% recurrent formers. Stone sites varied, with 42.7% having stones ≤1cm and 42.7% presenting with hydronephrosis. Analyses revealed no significant differences in renal stone distribution by age or sex ($p > 0.05$). However, proximal ureteric stones were more prevalent among males ($p < 0.05$). SF-36 domain scores showed significant differences in role limitations due to emotions and pain between new and recurrent stone formers. Multivariate regression indicated that higher body mass index is associated with lower SF-36 PCS scores ($\beta = -1.198$, $p = 0.004$), highlighting its impact on physical HRQoL. **Conclusion:** While no significant age or sex differences

were found in renal stone distribution, proximal ureteric stones were more prevalent among males. Short form-36 domain scores showed significant disparities in emotional limitations and pain between new and recurrent stone formers, with higher BMI associated with lower physical health-related quality of life.

221. Mhina, B.S. (2024). Male Involvement in Birth Preparedness and Complications Readiness during Obstetric Emergencies at Temeke Regional Referral Hospital. Muhimbili University of Health and Allied Sciences.

ABSTRACT

Background: Male involvement in birth preparation and complication readiness (BP/CR) can take various forms, including education, awareness-raising, and participation. This involvement is believed to be beneficial in many ways, given males various roles as sexual partners, husbands, fathers, family and household members, community leaders, and gatekeepers to health information and services. Maternal health programming should strive to recognize and eliminate obstacles that prevent men from actively participating in BP/CR. When males and females understand each other's health needs, it can enhance the accessibility and affordability of necessary services. Moreover, this will influence men to see the need to support their partners physically, psychologically, and financially during obstetric emergencies. **Aim:** This study assesses the proportion of male involvement in birth preparedness and complications readiness and influencing factors during obstetric emergence at Temeke Regional Referral Hospital (TRRH). **Methods:** A hospital-based analytical cross-sectional study was conducted among males whose female partners were admitted with obstetric emergencies at TRRH from May to June 2024. A total of 249 males from the selected hospital were chosen using a convenient sampling technique. An interviewer-administered structured questionnaire was used to collect data, which was then entered into the SPSS 23 version for analysis. A binary logistic regression model was used to find the association between the dependent and independent variables. The final model's results were expressed as adjusted prevalence ratios, 95% confidence intervals, and P-values. **Results:** The overall

proportion of male involvement in BP/CR during obstetric emergencies at TRRH was 211(84.7%). Employment status (**p=0.009**) and partners' communication (**p=0.001**) were statistically significant variables with male involvement in BP/CR during obstetric emergencies. Moreover, most participants (64.7%) were found to have poor knowledge of obstetric danger signs during antenatal, natal, and postnatal periods. **Conclusion and Recommendation:** The study indicates a high proportion of male involvement in BP/CR during obstetric emergencies at TRRH. Despite this high proportion the study highlights employment and partner communication on maternal health to have an influence on male involvement in BP/CR during obstetric emergencies. These findings emphasize the need for the hospital to have a specialized unit responsible for providing maternal and child health education to partners together. Additionally, healthcare workers should encourage women in ANC to share the health messages with their partners and involve male partners when explaining knowledge about obstetric danger signs, with special emphasis on males with first-time pregnant partners and uneducated males. Moreover, further qualitative studies of similar research topics are recommended to capture in-depth individual views in addressing gaps identified in this study.

Keywords: Birth Preparedness and Complication Readiness (BP/RC), Male involvement, Obstetric emergencies**.**

222. Mhina, E. (2024) Self-medication among pregnant women attending the Iringa regional referral hospital antenatal clinic. Muhimbili University of Health and Allied Sciences.

ABSTRACT

Background: Self-medication, as defined by the World Health Organization (WHO), refers to the independent use of medications by individuals without seeking medical guidance. In communities with limited resources, self-medication during pregnancy poses significant concerns, leading to issues such as abortion, stillbirths, low birth weight, premature birth, congenital defects, and drug resistance. Despite its prevalence, little is known about the motivation for self-medication in this population. Objective: The study

aimed at exploring reasons for self-medication among pregnant women attending ANC at Iringa Region Referral Hospital. **Methodology:** The study used a phenomenological qualitative study design with a purposeful sample of pregnant women who attended an Antenatal care clinic (ANC) at Iringa Regional Referral Hospital from September 2023 to October 2023. Four focus group discussions were conducted. The discussions were guided using an interview guide and were audio recorded with field notes taken. The interviews were transcribed verbatim and analyzed using thematic analysis. **Results:** Two main themes were developed as drivers of self-medication among women based on the data: environmental and personal factors. Environmental factors encompass community culture and family experiences, receiving guidance from a respected family member, long wait times at health facilities, living far from health facilities, and easy access to medication in the community. Personal factors include positive outcomes following self-medication, lack of time to seek care, lack of awareness of medication prescription laws, medication costs, pregnancy-related diseases and conditions, urgency, and time sensitivity. **Conclusion:** Easy access to prescribed medication when a pregnant woman has many responsibilities, advice from the peer group of their fellow pregnant women, and advice from respected family members or friends, played a significant role in self-medication practices.

223. Michael, S. (2024). Involvement of fathers in child care practices as prevention strategies to improve stunting among under-five children in Sembawang rural district, Rukwa region Tanzania. Muhimbili University of Health and Allied Sciences.

ABSTRACT

Background: Stunting among under-five children is a public health concern. Father's involvement in childcare practices is crucial in shaping a child's health outcomes. Recognizing that aspect father's involvement can be applied as one of the methods for preventing stunting among under-five children. **Objective:** To determine the level of father's involvement in childcare and its association with the stunting status among

under-five children in the Sembawang rural district. **Methodology:** An analytical cross-sectional study design was conducted in Sembawang Rural District. A multistage clustering sampling was used to obtain a total of 359 father-child pairs in this study. A questionnaire was used to collect data. Height and age measurements were standardized to WHO height for age Z-scores to determine stunting status among under-five children. Data were analyzed by using STATA software, and descriptive statistics, bivariate and multivariate analysis were conducted. Results: A total of 347 fathers with under-five children were recruited into the study, their mean age was 35 ± 6.91 years. The majority of fathers were aged between 33-47 years (n=213; 61.4%), in terms of occupation, the majority of fathers were farmers (n=251; 72.6%). The proportion of stunting among under-five children was 55%. The magnitude of the father's involvement in childcare practices was 43.8%, father's knowledge about stunting was adequate. Factors associated with stunting were father's involvement and fathers knowledge; fathers with adequate knowledge and those who were highly involved in childcare were 46% and 52% less likely to have children with stunting compared to those with inadequate knowledge of stunting (Adjusted OR=0.54; 95% CI [0.22- 0.87]; p-value= 0.046) and those who were less involved (Adjusted OR=0.48; 95% CI [0.26 - 0.92)]; p-value= 0.048) respectively. **Conclusion:** The magnitude of the father's involvement in childcare practices was low and was associated with stunting among under-five children. Encouraging fathers to be more engaged in childcare activities and educating them about stunting could potentially contribute to reducing the prevalence of stunting among under-five children.

224. Michael, V.N. (2024). Nurses/midwives' perspective on the implementation of the new national antenatal care guidelines at the reproductive and child health clinics in Dar es Salaam city council. Muhimbili University of Health and Allied Sciences.

ABSTRACT

Background: Antenatal care guidelines are a worldwide known technical document that guides the provision of Antenatal care (ANC) to pregnant women, their unborn babies,

and neonates. In Tanzania, three different ANC models have been practiced, which were the traditional model used in 2002 back, the Focused Antenatal Care (FANC) model from 2002 to 2019, where the new ANC model took over. Implementing the ANC guidelines contributes to positive pregnancy outcomes. Midwives and nurses play a crucial role in the implementation of ANC guidelines as 80% of ANC services in our country are provided by them. The number of contacts and quality of care during pregnancy are associated with maternal and neonatal outcomes. Recent studies found that the FANC model contributed to more perinatal deaths than the eight contacts ANC model. This is because asymptomatic conditions may occur suddenly in the third trimester and therefore increased number of visits may help to detect them earlier and allow for timely management. In Tanzania despite shifting from the FANC model to the new model in 2020, perinatal mortality remains unchanged (38 per 1000 live births). This study aimed to explore the nurses/midwives' perspectives on implementing the new national ANC guidelines at the RCHC in the Dar es Salaam city council. **Material and Method:** This study is an exploratory qualitative design. The study participants were nurse-midwives working in the RCH clinics, who were involved in antenatal care at the selected health facilities in Dar es Salaam City Council, nurse-midwives with a minimum of six months of experience in antenatal care were included and those who were sick, on leave, or out for other duties at the time of the study were excluded. A purposive sampling method was used to obtain the health facility and participants of the study. The data was collected using focused group discussions. An audio recorder and notebook were used to store the collected data from the field. Thematic analysis as developed by Braun and Clarke used to analyze the data. **Study findings**: Participants in this study perceived that the implementing of the new national ANC guidelines was usefulness in reducing maternal and neonatal death, improving pregnancy outcomes, and enhancing antenatal care service delivery and provider's proficiency with ANC. The perceived factors facilitating new national ANC guidelines implementation were the availability of health commodities, together with provider's awareness, positive attitude, knowledge and skills, refresher training, supervision, and clinical audit regarding the new national ANC guidelines. Perceived challenges to implementing ANC guidelines included inadequate

staff, insufficient health commodities, lack of training and supervision, and improper health facility set up. Additionally, client's inability to afford some of ANC services were perceived as a barrier to the successful implementation of the new ANC guidelines. **Conclusion:** We found that, while nurses/midwives perceived the implementation of the new ANC guidelines as useful and recognized factors that facilitated its implementation, several challenges were also perceived to hinder it. Therefore, all key stake holders involved in implementing the new ANC guidelines must work to enhance the existing facilitators and address the challenges to improve the implementation within the Dar es Salaam city council.

225. Minja, W.V. (2024). Assessment of low haemoglobin prevalence and the effect of Beetroot juice flavoured with Pineapple as nutritional supplement in raising haemoglobin level among Anaemic cancer patients. A quassi experimental study at Ocean Road cancer institute. Muhimbili University of Health and Allied Sciences.

ABSTRACT

Background: Cancer patients must have adequate blood count before undergoing chemotherapy (CT) or radiotherapy (RT). Several measures including nutritional, provision of hematinic and in some cases blood transfusions are used to raise their blood count before and during CT and RT. Beetroot has been reported to boost blood counts in patients with anaemia. However, information is lacking to support the effect of this juice in boosting haemoglobin levels among cancer patients. **Objective:** This study aimed to assess the effect of the beetroot juice flavoured with pineapple (BJFP) as a nutritional supplement in boosting haemoglobin levels among anaemic cancer patient, about to undergo or undergoing chemotherapy or radiotherapy or both at ocean road cancer institute (ORCI). **Methodology:** It was a quasi-experimental study with repeated measurements with control groups. It employed a prospective study design. It was conducted at ORCI among admitted anaemic cancer patients. A total of 269 study participants were enrolled whereby 168 received beetroot juice flavoured with pineapple (BJFP). There were three categories of individuals; Patient with low Hb who did not

qualify for CT or RT initiation; Patients with Hb adequate to receive RT or CT and Post-treatment patients with complications including anemia. In all categories, patients were assigned to either the intervention group that received standard of care plus BJFP or the control group that received standard of care alone. Follow-up of haemoglobin levels was done once every week depending on their continued presence in the admission wards at ORCI before discharge. A semi-structured questionnaire was used to collect the patient's information that may have impact the blood counts. Collected data were entered into excel for cleaning and transferred to SPSS version 25 for analysis. Baseline characteristics of the study participants were described using descriptive statistics Balancing of these baseline characteristics was performed using inverse probability treatment weighting (IPTW). The effect of beetroot juice on raising blood counts among cancer patients was assessed using differences in differences (DID) method. Analysis of the factors associated with changes in blood count over time in cancer patients was performed using generalized estimating equation (GEE) and p-value <0.05 was considered statistically significance. **Results:** A total of 269 study participants were enrolled into the study, among these 168 used beetroot juices and 101 were the controls. Majority of the participants were female 81%in beetroot juice group and 79.2% in the control group. Majority were aged between 45-59 years with mean age of 52±12 standard deviation and majority had normal BMI. Among the study participants 68.77% had the haemoglobin level <8 g/dl and, among these 54.6% had Hb <6 g/dl that required blood transfusion. Patients not yet on CT or RT upon admission and were undergoing investigations 64.4% of them had Hb level<8 g/dl. BJFP administration showed a statistically significant effect on the haemoglobin level changes ranging from an increase of 1.25 g/dl to 2.46 g/dl for those who used it for a week and up to 4 weeks respectively with p-value <0. 005. Factors that were significantly associated with changes in haemoglobin levels during follow-up period were beetroot juice intake, treatment modalities, blood transfusion, age, and cancer stage. **Conclusion:** From these findings, it can be concluded that the use of beetroot juice flavoured with pineapple concurrently with the available standard of care helps in improving the haemoglobin level among anaemic cancer patients. This study recommends the practice at ORCI to keep going and

expand the coverage of more patients, expanding this practice to other hospital settings providing treatment to cancer patients. More data to be gathered along with the expansion of the practice to oth.

226. Miraji, M.I. (2024). Experiences of Mothers Caring for Infants with Neural Tube Defects at Muhimbili Orthopedic Institute in Dar Es Salaam, Tanzania. Muhimbili University of Health and Allied Sciences.

ABSTRACT

Background: Children with congenital central nervous system anomalies, including neural tube defects, often experience long-term disabilities like lower limb paralysis, incontinence, and learning difficulties. This places a significant care burden on their mothers, impacting both the mother's and child's quality of life across psychological, social, and economic dimensions. **Objective:** To explore mothers' experiences of caring for infants with neural tube defects admitted at Muhimbili Orthopedic Institute**. Methodology:** A phenomenological explorative qualitative study focusing on the experiences of mothers caring for infants with neural tube defects was conducted from December 2023 to May 2024. Criterion-based purposive sampling techniques were used, guided by information saturation. Ten in-depth interviews were conducted using a Kiswahili guide, and audio recordings were transcribed verbatim. Transcripts were coded using Dedoose to create a codebook, from which themes were identified and named. Deductive thematic analysis by Braun and Clarke was used. **Results:** We identified three compelling themes: economic experiences, psychological experiences and social experiences. The mothers faced various financial challenges while caring for an infant with a neural tube defect, but their significant others' financial support helped them overcome these obstacles. They experienced significant emotional stress as a result of fears for their unwell infants. Acceptance of their infant's condition and change in daily activities were among the social challenges. **Conclusion:** The experiences of mothers caring for infants with neural tube defects are complex and multifaceted. In addition to providing direct care for the infant, mothers also face various challenges that can impact

their ability to provide care. These challenges include economic, social, psychological and physical factors. **Recommendations:** There is a need for a comprehensive integrated care plan addressing issues concerning mother's experiences following the delivery of children with anomalies. The plan will consist of proper counselling on the diagnosis, continued and enhanced support from health services, patient advocacy groups providing additional information and support.

227. Miro, E.G. (2024). Treatment outcomes of patients with precancerous cervical lesions managed by cryotherapy and loop electrosurgical procedure done at Ocean Road Cancer Institute. Muhimbili University of Health and Allied Sciences.

ABSTRACT

Background: Globally, the burden of cancer is increasing and noted to be a leading cause of morbidity and mortality contributed by non-communicable diseases. Cervical cancer, as of the Global Cancer Observatory (GLOBOCAN) 2022, is the fourth most frequent cancer in women globally, accounting for 662,301 new cancer cases and 348,874 cancer deaths. As per this report on the region-specific incidence and mortality for East Africa, cervical cancer is the leading cancer with 40.1/100,000 and 28.6/100,000, respectively. In countries like Denmark and Norway, cervical cancer was reduced by 50% between the 1960s and 1970s (1). The main drivers are a high prevalence of high-risk human papillomavirus (HR HPV) and human immunodeficiency virus (HIV) coupled with the lack of effective sustained programs for cervical cancer screening in low- and middle-income countries (LMIC). This has led to the introduction of more cost-effective and accessible screening services to these countries. There is a lack of data on the effectiveness of these cost-effective screening services, especially those coupled with treatment of precancerous cervical lesions. **Objective:** This study aimed to estimate the prevalence of precancerous cervical lesions and their treatment outcomes and investigate predictors within the sociodemographic and clinicopathologic factors of clients screened for cervical cancer at Ocean Road Cancer Institute (ORCI). Materials and methods: This study was a retrospective cohort study conducted at the ORCI located in Dar es Salaam,

Tanzania. It included all clients who visited the institute for cervical cancer screening from January 2020 to December 2022 as the study population. The end point was 1-year follow-up results on re-screening after treatment for a precancerous cervical lesion. The computing tool used for statistical analysis and data visualization was statistics and data software (Stata version 17.0). Quantitative data was summarized using mean and standard deviation, while categorical data was summarized using proportions. The Chi test was used to compare proportions, and univariate and multivariate analysis was used to evaluate factors that are outcome predictive. **Results:** Clients who were found to have precancerous cervical lesions on visual inspection with acetic acid/ visual inspection with Lugol's iodine (VIA/VILLI) corresponded to 4.8% of all 5074 clients screened, characterized with majority being within the age of 35-45, interestingly associated with nulliparity and 4 times more prevalent in clients who were HIV positive (adjusted odds ratio (aOR)) = 4.47, 95% CI: 3.28-6.09, p<0.001).The 1-year follow-up results on re-screening after treatment of precancerous lesions corresponded to a 78.2% cure rate of the 78 clients who turned up for follow-up. Results also reveal that women living with HIV were 3.72 times more likely to turn positive after one year of follow-up (aOR=3.72, 95% CI: 1.03-13.47, p-value = 0.045). **Conclusions:** In the screening and post-treatment screening of clients for cervical cancer, HIV was found to be a significant predictor of both prevalence and treatment failure of precancerous lesions detected using VIA/VILLI. Future research should be directed towards this cohort of clients on customized screen and treat protocols to halt their potential progression to cervical cancer.

228. Misana, G.G. (2024). Prevalence of alcohol use, and factors associated with hazardous drinking among medical doctors in Dar es Salaam, Tanzania. Muhimbili University of Health and Allied Sciences.

ABSTRACT

Background: Despite its few perceived benefits, alcohol consumption is associated with numerous adverse outcomes such as disease, injuries, social and economic impacts. In 2016, harmful alcohol consumption was reported to contribute to 5.3% of deaths and

5.1% of disease adjusted life years (DALYs) in that particular year. Doctors have been identified as one of the key agents in prevention of alcohol related harm through role modeling, educating, and treating alcohol-related harms. However, their attitude and alcohol consumption behaviors affect such roles **Aim:** To determine the prevalence of alcohol use, and factors associated with hazardous drinking among medical doctors in the Dar-es-salaam region. **Methodology:** A cross-sectional analytical study that involved doctors from government hospitals in Dar-es-salaam was done from 20th October 2023 to 30th December 2023. A semi-structured questionnaire was used to collect data about socio-demographic and work-related characteristics, psychological well-being status and alcohol consumption patterns among the selected doctors. By using SPSS version 23 for analysis, chi-square test and binary logistic regression model were used to assess the statistical significance of the results and p-value of 0.05 was considered significant. **Results:** The prevalence of current drinkers is 55.8% while that of hazardous and moderate drinkers are 37.2% and 18.6% respectively. Having adjusted for confounders, the level of experience ($p = 0.009$), work department ($p = 0.04$), and psychological well-being ($p < 0.001$) retained a statistically significant association with hazardous alcohol use. Current drinkers with poor psychological well-being had 10.11 times higher odds of engaging in hazardous drinking (95% CI = 2.77 – 37) compared to those with good psychological well-being. **Conclusion:** Alcohol use among medical doctors appears to be a common behavior in Dar es Salaam. Medical doctors in Dar es Salaam have higher prevalence of alcohol use and hazardous drinking than the general population.

229. Misinzo, W,S. (2024). Postoperative arrhythmias after open heart surgery: incidence, risk factors, therapeutic management and outcomes among patients at Jakaya Kikwete Cardiac Institute, Dar es salaam, Tanzania. Muhimbili university of health and Allied Sciences.

ABSTRACT

Background: Arrhythmias are a major cause of morbidity and mortality following heart surgery and are a fairly common complication. It has been discovered that the percentage

of heart failure patients who simultaneously have post-cardiac surgery arrhythmia ranges between 10 and 57%. Despite the apparent maturity of the cardiac procedure, risks and postoperative consequences, there is scarce data in developing countries. Postoperative arrhythmias can lead to complications and negatively impact patient recovery following open heart surgery. Understanding the incidence and associated factors is essential for targeted intervention and improved patient outcomes. **Objective:** This study aimed to assess the incidence, factors associated with arrhythmias, therapeutic management and treatment outcomes among patients undergoing open heart surgery at Jakaya Kikwete Cardiac Institute (JKCI) in Dar es Salaam, Tanzania. **Methods:** A prospective observation study involving 100 post-cardiac surgery patients who meet the specified criteria was conducted from March to May 2024 at the JKCI in Dar es Salaam. Patients were selected consecutively until the sample size was reached then followed for the four (4) consecutive days post-surgery. Post-cardiac surgery arrhythmias were diagnosed with electrocardiography (ECG) monitoring and confirmed with ECG re-examinations, data were collected using case report form (CRF) that contained three sections. The first section included demographic information and preoperative variables e.g. obesity, impaired renal function, the second section included clinical information and operative variables like the types of cardiac surgery, cardiopulmonary bypass time, and the third section included information on post cardiac surgery e.g. occurrence of postoperative arrhythmia, the types of arrhythmias, management of arrhythmia, complication of postoperative arrhythmia. Data were then analyzed by SPSS version 23. A p-value of < 0.05 for the association between dependent and independent variables were considered statistically significant. **Results:** Out of 100 participants in the study, Of the participants, 52 (52.0%) had a previous history of arrhythmia before admission, 96 (96.0%) had rheumatic heart disease, and 26 (26.0%) had pre-operative arrhythmia during admission of which 18 (69.2%) had ventricular tachycardia and the remaining had atrial fibrillation. Hypertension was present in 78 (78.0%), smoking in 15 (15.0%), COPD in 7 (7.0%), and diabetes in 35 (35.0%). Normal weight was seen in 57 (57.0%), overweight in 36 (36.0%), and underweight in the remainder. The majority underwent valve replacement 55 (55.0%), with 23 (23.0%) having CABG. The study found that 54 (54.0%) of patients

undergoing open heart surgery at Jakaya Kikwete Cardiac Institute developed postoperative arrhythmias, with sinus tachycardia 36 (66.7%) and atrial fibrillation 32 (59.2%) being the most common types. Significant factors associated with these arrhythmias included higher BMI (ARR 1.72, p=0.038), a history of arrhythmia (ARR 1.25, p=0.045), pre-operative arrhythmia (risk ratio 7.19, p=0.011), and hemodynamic instability (risk ratio 4.41, p=0.004). Treatment modalities included cardiac membrane stabilizers (69.2%), hydration fluids (69.2%), beta-blockers (61.5%), and anticoagulants (59.0%). The outcomes revealed that 59 (59.0%) of patients experienced hemodynamic instability, 33 (33.0%) had extended hospital stays, and 33 (33.0%) faced bleeding complications, with a very low mortality rate of 1 (1.0%). **Conclusion**: This study highlights the urgent need to address postoperative arrhythmias following open heart surgery, with a notable incidence observed among patients. Key factors associated with arrhythmias include higher BMI and a history of pre-operative arrhythmia. While pharmacological interventions were commonly used, treatment outcomes were generally positive, though complications such as prolonged hospital stays, and bleeding were noted. The low mortality rate underscores the effectiveness of current management practices but continued focus on optimizing arrhythmia management is essential.

230. Mjemmas, M. (2024). Patient satisfaction with pharmaceutical services provided in care and treatment centres in Dar es salaam region, Tanzania. Muhimbili University of Health and Allied Sciences.

ABSTRACT

Background: The World Health Organization's (WHO) Africa region perceptions of poor service quality have been recognized as a significant barrier to healthcare use. This highlights the need to assess patient satisfaction to improve service delivery. **Objective:** This study aims to assess factors that contribute to patient satisfaction with pharmaceutical services provided at the Care and Treatment Centre (CTC) in Dar es Salaam Tanzania **Methodology:** A facility-based cross-sectional survey among 382 HIV clients attending CTC at Magomeni HC and Mwananyamala Regional Referral Hospital

(RRH) in Dar es Salaam. Exit interviews were conducted and the collected data were analyzed using STATA version 15. Structure Equation Modeling (SEM) was used to determine the influence of the facility amenities/structure and provider-related process factors influencing patient satisfaction with pharmaceutical services at CTC. The goodness of fit was measured using the likelihood ratio test, the Root Mean Square Error (RMSEA), the Comparison Fit Index (CFI) and the Coefficient of Determination (R2). The significance level was considered at 5% ($p<0.05$). **Results:** A total of 382 study participants were enrolled in the study with a mean age of 42 ± 11.4 years. The overall satisfaction score of the participants with pharmaceutical services were 69.1% where clients were more satisfied with the friendliness of the pharmacist (97.9%), communication skills (97.1%) and counselling on ART use and storage (96.1%). Clients attending CTC at Mwananyamala RRH had 2.5 times higher odds of satisfaction with pharmaceutical services compared to clients attending CTC at Magomeni H/C (AOR= 2.47, 95:CI: 1.54-3.94). Process domain (provider/pharmacist-related) factors showed a significant association to patient satisfaction with pharmaceutical services (β=0.1, 95% CI: [0.02-0.21]), p-value=0.012, leaving structural domain (facility amenities) with no significant association (β=0.6, 95% CI: [0.1-1.3]), p-value=0.09.

231. Mkanje, D. (2024). Comparative study between Computed tomography and surgical staging of ovarian cancer among patients attending Muhimbili national hospital. Muhimbili University of Health and Allied Sciences.

ABSTRACT

Background: Ovarian cancer is a significant cause of mortality among gynecologic malignancies worldwide, resulting in over 200,000 deaths annually. However, in Tanzania, the understanding of the CT scan finding and their significance on the ovarian tumour staging is limited and is not used frequently. The comparison between radiological and surgical staging of ovarian cancer is crucial for guiding treatment decisions and improving patient outcomes. **Aim:** The study aim was to assess the comparison between radiological (CT scan) and surgical staging of ovarian cancer among

women attending Muhimbili National Hospital (MNH). **Methods**: This was a cross-sectional, retrospective hospital-based study that utilized medical records from 43 participants who attended Muhimbili National Hospital (MNH) between January 2022 and January 2024. Data collection was conducted using Open Data Kit (ODK), which implemented a pre-developed checklist to gather information on demographics, clinical presentation, surgical findings, and CT scan results. The collected data was organized in MS Excel and analysed using SPSS version 27. Descriptive statistics were employed to summarize the data at a univariate level, using frequency distribution. Relationships between independent and dependent variables were assessed via cross-tabulation and Chi-Square tests, with statistical significance determined at a p-value of less than 0.05. **Results:** This study involved 43 ovarian cancer patients with a median age of 54 years. All participants presented with abdominal pain or swelling (100%), followed by abdominal fullness in 38 patients (88.4%) and back pain in 5 patients (11.6%). Explorative laparotomy was performed in all patients, revealing ovarian mass/masses in every case. Additionally, ascites was identified in 36 patients (83.7%), and omental caking was observed in 25 patients (58.1%). These findings were mirrored by CT scans, with ascites present in 30 patients (69.8%) and omental caking in 24 patients (55.8%). CT scans showed a sensitivity, specificity, and accuracy of 100% for stage I, 100%, 97.2%, and 97.7% for stage II, and 80.6%, 100%, and 86.1% for stage III, respectively. The overall CT scan sensitivity and PPV was 97.4% and 81.1% respectively. The pre-surgical CT staging was highly significant (p-value < 0.001), underscoring its crucial role in aiding surgeons to plan treatments, particularly for ovarian cancer patients before laparotomy. **Conclusion:** There is a significant association (p value <0.000) between CT scan and surgical staging that highlights the potential of CT imaging as a preoperative staging tool for ovarian cancer.

232. Mkombo, C.B. (2024). Contribution of larviciding and factors affecting its implementation in reducing Malaria burden among school age children in Tanga Region. Muhimbili university of health and Allied Sciences.

ABSTRACT

Background: The World Malaria Report of 2022 reported an estimated 247 million cases of Malaria, a 2 million increase from 2020. Tanzania is one of the top ten African countries responsible for approximately sixty-six percent of the world's Malaria cases. WHO recommends an integrated approach in the control and elimination efforts of Malaria including vector control using Larviciding. In Tanzania, the government began promoting Larviciding in the early 2000s after it was successful in Dar es Salaam. **Objective**: To assess the contribution of Larviciding in reducing Malaria burden among school-age children and to explore factors affecting its implementation in Tanga Region. **Method:** A Mixed triangulation study with a convergence model was applied where a cross-sectional case study was conducted together with a phenomenological study. In a cross-sectional study, secondary data from the National School Malaria Parasitaemia Survey of 2015 – 2023 was used to examine the trend of Malaria infection in Muheza District Council (No Larviciding) and Tanga City Council (Larviciding). In a phenomenological study, in-depth interviews were employed to gather information on the factors affecting the implementation of Larviciding. Qualitative data was analyzed manually. Data analysis was done by using a thematic approach. **Results:** The trend of Malaria is declining from 2015 to 2023 for both districts, however, the decline is gradual and steady in Tanga CC, and the Malaria burden in prevalence is lower in Tanga CC by 6.5 %. The factors found affecting the intervention of Larviciding were few community volunteers, pungent smell of the larvicides, lack of transportation for the activity, inaccessibility of some very big breeding sites with long grasses, environmental challenges such as climatic changes in rainy seasons, insufficient incentives to community volunteers, volunteers resigning after they being trained and climatic changes. **Conclusion and recommendation:** There is a significant contribution of Larviciding in the reduction of the Malaria burden among school-age children. Adding more Malaria prevention interventions to this age group of school-age children will be of importance in reducing the Malaria burden to this specific age group.

233. Mkumbe, S.C. (2024). Short-term functional outcomes of patients with neck of femur fractures managed with valgus intertrochanteric osteotomy at Muhimbili orthopaedic institute. Muhimbili University of Health and Allied Sciences.

ABSTRACT

Background: Patients with femoral neck fractures are among the ones having serious condition with a sudden change of quality of life, leading to higher dependence on performing daily activities. There is a significant number of reports of patients experiencing a dramatic decline in performing activities of daily living at the time after discharge from the hospital. Valgus intertrochanteric Osteotomy is generally considered when other treatment modalities of Femoral neck fractures have failed to attain the anticipated outcomes. The main goal of this procedure is to overcome shear forces and changes them to compression forces by positioning the fracture site perpendicular to the resultant forces hence adding stability. This procedure reduces stress on the fracture site, improves vascularization, restores hip function and delays or obviates the need for hip replacement. The early functional outcomes of patients with neck of femur fractures treated with Valgus Intertrochanteric osteotomy have not been clearly documented in the majority of patients at Muhimbili Orthopaedic Institute. This indicates that, there is a scarcity of information on early functional outcomes of patients with neck of femur fractures treated with Valgus intertrochanteric osteotomy after failure of the primary treatment at Muhimbili Orthopaedic Institute. **Objective:** The study aimed to determine the short-term functional outcomes of patients with neck of femur fractures managed with valgus intertrochanteric osteotomy at Muhimbili Orthopaedic Institute from June 2022 to May 2023. **Methodology:** A descriptive prospective cross-sectional hospital-based study was employed on 40 patients with femoral neck fractures who had failure of their initial treatment and then treated with Valgus intertrochanteric Osteotomy as a hip salvage procedure at Muhimbili Orthopaedic Institute. A standardized questionnaire was used for data collection and short-term functional outcomes of patients with Neck of Femur fractures treated with Valgus Intertrochanteric osteotomy after 12 weeks were assessed by Harris Hip Score. SPSS version 24 was used to obtain frequency, chi-square

test, means, and standard deviation for categorical and numerical variables respectively. Variables with a P-value < 0.05 was considered to be statistically significant. vi **Result:** Of 40 participants enrolled, 82.5% were males and had an average age of 48.78 ± 14.71. Almost 95% of fractures were classified as Garden and Pauwels type 4 and 3 respectively and 65% of the injuries were due to high energy injuries. The average time from injury to treatment was 6.56 ± 3.81 weeks and the preoperative limb length discrepancy was 2.4 ± 0.47, which decreased to 0.16 ± 0.54 after the operation. The overall mean Harris Hip Score (HHS) for functional outcomes after surgery was 84.53 ± 9.13 and 55% of participants achieved good functional outcomes with a significant decrease in limb length discrepancy following the operation ($p < 0.05$). **Conclusion:** Valgus Intertrochanteric osteotomy has shown positive functional outcomes, with a significant reduction in limb length discrepancy. The procedure allows for the preservation of the native hip joint, which is especially advantageous for younger patients who wish to maintain joint integrity and delay or avoid the need for a prosthetic hip replacement. Additionally, the precise correction of the anatomical alignment addresses underlying biomechanical issues, promoting more balanced loading across the joint and potentially slowing down the progression of joint degeneration.

234. Mlabwa, S.O. (2024). Healthcare providers' perspectives on vaginal birth after caesarean section at mwananyamala hospital in Dar es salaam, Tanzania. Muhimbili University of Health and Allied Sciences.

ABSTRACT

Background: In Tanzania, the rate of cesarean section (CS) rose from 6% in 2016 to 11% in 2022, often due to repeated unnecessary CS that increases the risk of maternal and neonatal morbidity and mortality. Vaginal Birth after Cesarean (VBAC) offers a safer alternative and reduce the rate of unnecessary CS. **Aim:** This study explored healthcare providers' perspectives on VBAC at Mwananyamala Hospital to identify barriers, facilitators, and recommendations made by HCPs to improve VBAC practices. **Methods and materials:** The research used a descriptive qualitative study design with

purposive sampling of 15 healthcare providers at Mwananyamala Hospital, Dar es Salaam, Tanzania. In-depth, semi-structured interviews were conducted, recorded, and transcribed to capture perspectives on VBAC. Thematic analysis was applied to the data, involving coding and identification of emerging patterns. Ethical considerations included informed consent, confidentiality, and adherence to ethical guidelines for research involving human subjects. **Results:** The data revealed four main themes, each with several subthemes. Participants demonstrated an understanding of VBAC, including its meaning, criteria, benefits, and complications. Facilitators included individual and facility-related facilitators. Participants highlighted Individual, interpersonal, facility, and patient-related barriers to implementing VBAC. Recommendations emphasized the need for guidelines and SOPs promoting VBAC, on-the-job training, enhanced staffing and motivation, comprehensive education for mothers and the community, and improved interdisciplinary teamwork for VBAC management. **Conclusion and recommendations:** HCPs showed an understanding of VBAC criteria, benefits, and complications, focusing on thorough patient evaluation for safe outcomes. Facilitators included individual and facility-related facilitators. The identified barriers included individual, interpersonal facility, and patient-related barriers. Recommendations included enhancing teamwork, addressing staffing, and ongoing training to improve VBAC outcomes. Tailored interventions like teamwork and vi education are crucial to overcoming universal challenges in VBAC implementation and improving outcomes. Future research should evaluate these strategies to refine VBAC practices. **Keywords:** Caesarean Section Rates; Experience; Healthcare Providers; Perspectives; Tanzania; Vaginal Birth after Caesarean Section

235. Mlenzi, U. (2024). Process evaluation of the implementation of health facility governing committee guideline in Ushetu district council, Shinyanga region, Tanzania. Muhimbili University of Health and Allied Sciences.

ABSTRACT

Background: Primary healthcare governance is essential for improving service delivery globally, with community participation recognized as a key strategy in both developed and developing countries. Health Facility Governing Committees (HFGCs) are promoted as a means to enhance healthcare management. However, Tanzania and other developing nations continue to experience ineffective, low-quality primary care despite having HFGCs in place. **Objective:** The study aimed to evaluate the implementation of health facility governing committee guidelines in the Ushetu District Council. **Methodology:** This qualitative study was conducted in the Ushetu district council. The evaluation was conducted using a descriptive case study design with a sample size of 30 key informants from health facility governing committees. Selection of these key informants was achieved through a purposive sampling procedure. A Key Informant Interview (KII) was used to gather data from the target study population. Thematic analysis was followed to generate empirical results. **Results:** Most participants were unaware of HFGC guidelines, relying on instructions from the facility in-charge, which limited HFGCs' effectiveness. While their involvement in planning, budgeting, and financial oversight is vital for transparency and accountability, many members lack the technical skills needed for active participation, highlighting the need for training in procurement and financial management. Key challenges include inadequate awareness of roles, insufficient incentives, socio-economic pressures, and political interference, all of which hinder effective governance, decision-making, and the performance of healthcare facilities. **Conclusion and recommendations:** HFGCs play a crucial role in enhancing transparency, accountability, and community participation in healthcare. However, their effectiveness is hindered by a lack of knowledge, inadequate training, and limited involvement in decision-making, preventing them from fully realizing their potential. Targeted training, regular involvement, and empowerment of HFGC members are essential for enhancing their roles. The CHMT should focus on building their skills and knowledge to improve engagement and performance.

236. Mmanda, R.P. (2024). Frailty among adult people living with HIV attending clinic at Muhimbili National Hospital in Dar es salaam, Tanzania. Muhimbili University of Health and Allied Sciences.

ABSTRACT

Background: Frailty is described as a clinical state of physical weakness and susceptibility brought on by reductions in physiologic reserves, impairing the body's capacity to deal with a variety of acute or long-term stressors. It is characterized by a lowered functional capacity of an individual, thus, reduced functional capacity to perform basic daily activities. Data and knowledge are scarce with regard to frailty and its overall effect on the quality of life in Tanzania. This study aimed at determining the magnitude of frailty, associated factors and its association with quality of life in adult People living with HIV as this group is experiencing a disproportionate burden of age-related conditions, particularly frailty, which occurs more frequently and at an earlier age compared to the general population**. Aim:** To determine the prevalence of frailty and its associated factors and overall impact in the health-related Quality of life among People Living with HIV attending the Care and Treatment Centre clinic at Muhimbili National Hospital in Tanzania **Methodology:** A hospital-based, cross-sectional study was conducted from August to November 2023 in the Care and Treatment Centre at the Muhimbili National Hospital. Consented 268 PLHIV aged 35 years and above were enrolled using a linear systematic sampling. Socio-demographic, lifestyle, clinical and laboratory characteristics were collected from the participants using interviews and hospital medical records review. Pre frailty and frailty was determined using FRAIL scale for frailty and quality of life was assessed using WHOQOL-HIVBREF tool. The burden was presented as percentages and quality of life was presented as scores (4-20). Univariate and multivariable analysis using ordinal logistic regression model was used to determine the association between independent variables and frailty and pre-frailty status. A p-value of <0.05 was regerded as statistically significant. **Results:** Majority of the PLHIV involved in the study were female 72.4%. Mean age of the participants was 51.8±10. Among the participants, 55.2% were aged ≥50 years, the median age at HIV

diagnosis was 40 years (IQR 34-49) and the median duration of HIV positivity being 96 months (IQR 36-192). Prevalence of pre-frailty and frailty was 23.5% and 27.6% respectively. The overall quality of life score was found to be 16.2±1.6. After adjusting for vi other factors, frailty status was associated with older age ≥ 50 years, female gender, marital status and presence of comorbidities like hypertension. Frailty was associated with decreased quality of life scores. **Conclusion:** The burden of pre-frailty and frailty status was high in PLHIV and it was associated with multiple factors which are of clinical and social importance. Frailty status was associated with decreased quality of life scores. **Recommendation:** Assessment for Frailty in PLHIV should be a standard of care, especially during clinic visits for patients with HIV. Patients should have regular clinic visits and assessments to achieve disease control. FRAIL scale should be incorporated in routine clinical assessment of the patients with HIV, especially in the outpatient clinics.

237. Mmari, J. (2024). Knowledge of health education and the associated factors among hemodialysis patients at Muhimbili national hospital, Dar es salaam, Tanzania. Muhimbili University of Health and Allied Sciences.

ABSTRACT

Background: Education for patients with chronic kidney disease leads to improvements in their health and adherence to treatment. Despite its importance, there is limited information on the effectiveness of patient education in hemodialysis care. **Objective**: This study aimed to assess the level of knowledge acquired through health education and its associated factors among hemodialysis patients at Muhimbili National Hospital. **Materials and Methods**: This was a cross-sectional analytical study among hemodialysis patients at Muhimbili National Hospital. The trained research assistants collected data using interviewer-administered questionnaires from May 3rd to May 26th, 2023. Analysis was performed using Stata version 15.0. Descriptive statistics summarized numerical variables using mean and standard deviation, while categorical data were presented as frequency and percentage. Bivariate and multivariate logistic regression models were employed to determine factors associated with level of knowledge. **Results:** Among the

246 participants, the majority (152, 61.8%) were male, with a mean age of 50 years (SD 13.5). The overall level of knowledge on various aspects of health education in hemodialysis was low (105, 42.7%). Noteworthy individual factors linked to knowledge included the presence of other chronic diseases (AOR = 0.60, 95% CI = 0.24-1.48), frequent adherence to hemodialysis education (AOR = 5.29, 95% CI = 2.84-9.86), and incomplete coverage of health education modules (AOR = 2.04, 95% CI: 1.16-3.59, p = 0.013). Organizational factors influencing knowledge encompassed patient-centered care (AOR = 1.89, 95% CI: 1.05-3.40, p = 0.034), regular doctor communication about hemolysis management (AOR = 2.47, 95% CI: 1.37-4.46, p = 0.003), and patients facing high treatment costs (AOR = 1.89, 95% CI: 1.05-3.40, p = 0.034). **Conclusion:** The majority of hemodialysis patients had low knowledge of various aspects of health education. High knowledge was associated with patients' adherence to hemodialysis education, the presence of other chronic diseases, regular doctor communication, and treatment costs. In order to improve knowledge acquisition and patient outcomes, these findings advocate for educational interventions that address both individual and organizational factors.

Keywords: Knowledge, Health education, Hemodialysis, Associated factors.

238. Mmbando, E.W. (2024). Factors associated with provision of pain management among adult trauma patients presenting to the emergency department of three tertiary hospitals in Tanzania; a cross-sectional study. Muhimbili University of Health and Allied Sciences.

ABSTRACT

Background: Electrocardiograms are widely used for diagnosing heart diseases, including myocardial ischemia, metabolic disturbances, and life-threatening arrhythmias. In the Emergency Medicine Department, the utilization and evaluation of electrocardiograms (ECGs) are vital for diagnosing and planning the treatment of patients with critical conditions. However, Errors in interpretation can cause significant morbidity and mortality, while over-interpretation can lead to unnecessary treatments, increasing

costs and hospital stays. **Objective of the study:** To determine the accuracy of ECG interpretation among doctors working at the Emergency Medicine Department in a tertiary hospital in Tanzania. **Methodology:** The study was conducted at Muhimbili National Hospital's Emergency Department in Tanzania (March- April 2024) and involved Emergency Medicine Residents and General Practitioners with specified experience. Participants provided consent, completed a survey, and interpreted ten anonymized ECGs. Accuracy was assessed on rate, rhythm, QRS axis, P wave, T wave, PR interval, QT interval, and primary diagnosis. Two specialists reviewed the ECGs, and a marking scheme was developed. Data were summarized using SPSS, calculating frequencies, percentages, means, standard deviations, medians, percentiles, and 95% confidence intervals. **Results:** The average ECG interpretation score among doctors in the Emergency Medicine Department was 59.4%. Mean scores for general practitioners, 1st, 2nd, and 3rd-year residents were 50.96%, 54.18%, 66.06%, and 66.43%, respectively. Bifascicular Block and Acute Pericarditis were the most challenging diagnoses. Overall, 51% of respondents reported good confidence, while 35.3% reported moderate confidence. There was a moderately strong positive correlation (rho = 0.532) between ECG scores and self-reported confidence. **Conclusion:** Enhanced ECG training and confidence-building are crucial for improving diagnostic accuracy and patient outcomes. Targeted training programs should be immediately implemented.

239. Mngulwi, A. R. (2024). adherence to iron-folic acid supplementation and associated factors among pregnant women in Kinondoni municipality. Muhimbili University of Health and Allied Sciences.

ABSTRACT

Background: Despite the availability and accessibility of iron and folic acid supplements (IFAS), the adherence rate remains low, leading to a high prevalence of anaemia during pregnancy. Irrespective of the implemented interventions, there is deficit of studies regarding the current information of level of knowledge on benefits of IFAS, adherence to IFAS and factors influencing adherence to IFAS among pregnant women in the local

context. **Objective:** To evaluate the adherence to iron-folic acid supplementation and associated factors among pregnant women in Kinondoni Municipality. **Materials and Methods:** This study employed a facility-based cross-sectional design with a quantitative research method to recruit 414 pregnant women aged between 15 and 49 years attending the antenatal care (ANC) clinics in the three public health facilities in Kinondoni Municipality. A standardized, researcher-administered questionnaire was pre-tested and used in this study. The SPSS software (version 26) was used for cleaning, editing and analyzing quantitative data collected in this study. Descriptive statistics was used to analyse demographic information, level of knowledge on benefits of IFAS, level of adherence to IFAS and factors affecting adherence to IFAS and the results was presented in tables, graphs or charts. The association between each of the categorical independent variables and the dependent variable was analysed by Chi-square test. Further, multivariable binary logistic regression model (with dependent variable: adherent vs non-adherent) was applied to establish factors influencing adherence to iron-folic supplementation among pregnant women. Adjusted odds ratio (AOR) with 95% CI, $p< 0.05$ was considered statistically significant. **Results:** It was found that majority (77.5%) of respondents (n=321, 95% CI, 73.3%-81.3%) had adequate knowledge on the benefits of IFAS. The level of knowledge on the benefits of IFAS was statistically associated with higher education level (p=0.001). The overall adherence of IFAS among pregnant women was 56.0% (n=232, 95% CI, 51.2%-60.8%). Factors such as older age, higher education levels, and larger household size were significantly linked to better adherence (p=0.001). Further, pregnant women who perceived vi that the supplements cause some medical complications during the pregnancy were more likely to adhere to IFAS compared to those who disagreed with COR of 1.71 (95% CI, 1.15 2.55, p=0.008). **Conclusion and Recommendations:** This study concludes that the large proportion of pregnant women attending ANC clinics in Kinondoni Municipality have adequate knowledge on the benefits of IFAS. However, level of adherence to IFAS remain moderate among pregnant women, indicating a gap between knowledge and practice. Age, education level, and household size are relevant factors associated with the adherence to IFAS among pregnant women attending ANC clinics. It is recommended that stakeholders including

the government, NGOs, civil societies and health professionals should strive to translate higher knowledge of iron-folic acid supplementation (IFAS) into improved adherence among pregnant women in Kinondoni Municipality. Gram-positive infections. The prevalence of methicillin-resistant *Staphylococcus aureus* (MRSA) was 87.5%. However, a low prevalence of extended-spectrum beta-lactamase production (15.2%) was noted among Enterobacter ales. Gram-negative infections were highly resistant to ceftazidime, ceftriaxone, ciprofloxacin, and trimethoprim-sulfamethoxazole, while *Staphylococcus aureus* was highly resistant to penicillin (100%) and cefoxitin (87.59%), *CoNS* infections were also resistant to penicillin (95.0%), cefoxitin (80.0%), clindamycin (70.0%) and trimethoprim-sulfamethoxazole (70.0%). The data revealed that the use of antibiotics (cPR: 1.17, 95%CL: 0.88-1.55, P=0.283) and hospitalization (cPR: 0.98, 95%CI: 0.77-1.23, P=0.837) had no a statistically significant as the predicted factors on MDR prevalence. **Conclusion:** The majority of orthopedic wound infections are caused by multidrug-resistantpathogens. Timely identification of antibiotic susceptibility patterns is vital to preventing thespread of infections.

240. Mngumi, R. T. (2024). Cryptococci meningitis screening knowledge and its associated factors among health care providers in Tarime district council. Muhimbili University of Health and Allied Sciences.

ABSTRACT

Background: Cryptococci meningitis (CM) is a serious infection affecting the brain and spinal cord, primarily in individuals with weakened immune systems like those with advanced HIV, cancer patients, or organ transplant recipients. In sub-Saharan Africa, CM is a significant cause of illness and mortality among those with advanced HIV. Early detection of CM, particularly in advanced HIV cases, is crucial for better patient outcomes. Screening services for CM, including clinical and cryptococcal antigen (CrAg) screening, are commonly used in low-resource settings like Tanzania, including Tarime District Council. However, access to World Health Organization (WHO) guidelines and resurces on CM diagnosis, prevention, and management is limited in resource-

constrained settings like Tarime District Council. This study aimed to evaluate the knowledge on CM screening to advanced HIV patients and its associated factors among health care providers in Tarime district council. **Objective of the study:** To determine the knowledge on Cryptococcal Meningitis screening to advanced HIV patients and its associated factors among healthcare providers in Tarime District. **Materials and Methods:** A cross-sectional study design employing a quantitative approach was utilized to address the study objectives. Twelve health facilities were randomly selected through a lottery method in Tarime district council, Mara region, Tanzania. From these facilities, a total of 108 healthcare workers were included as study participants. Data collection was conducted using structured pre-tested questionnaires. Subsequently, data analysis was performed using SPSS VERSION 23 application software. Descriptive statistics such as mean, standard deviation, and proportion were calculated for univariates. Binary analysis was conducted using logistic regression to further explore the relationships between variables while controlling for potential confounders. **Results:** The study encompassed 108 participants, predominantly male, aged 25-35, with majority being nurses holding diplomas with over than 10 years of work experience. Overall, healthcare providers demonstrated poor knowledge of cryptococcal infection screening and prophylaxis. Facilitators included good support and collaboration among workers, high xii awareness of benefits. Barriers to effective screening and prophylaxis included logistical challenges, inadequate training, time and financial constraints, and cultural/religious beliefs. Binary logistic regression showed that age (OR; 0.197 CI 0.49 – 0.789, p=0.022)) and training on CM screening (OR; 0.154 CI: 0.044 – 0.534, (0.004)) significantly affected CM screeninig knowledge. **Conclusion and Recommendation:** The study highlighted significant gaps in knowledge regarding cryptococcal meningitis screening among healthcare providers, with varying levels of understanding observed across different professions. Addressing these knowledge gaps through targeted educational interventions and addressing facilitator like proper training about CM screening, adequate support and collaboration and precence of guidelines. with barriers such as lack of enough diagnostic tools, logistical challenges and inancial ultural is crucial for improving the screening of cryptococcal meningitis. Additionally, the study emphasized the importance of

continuous education and training programs, especially for older and less educated providers, to enhance overall healthcare practices and outcomes related to cryptococcal meningitis screening.

241. Mohamed, A.I. (2024). Correlation between radiological and tympanometry findings among pediatric patients with adenoid hypertrophy attending Otorhinolaryngology clinic at Muhimbili National Hospital, Muhimbili university of health and Allied Sciences.

ABSTRACT

Background: The most prevalent cause of nasal obstruction in pediatric patients is adenoid hypertrophy (AH), often leading to symptoms such as snoring, sleep apnea, difficulty breathing, or mouth breathing. Adenoid hypertrophy significantly contributes to the development of otitis media with effusion (OME) in children, with a higher incidence observed as adenoid size increases. The most dependable and cost-effective evaluation method for enlarged adenoids and the determination of the adenoid-nasopharyngeal ratio (ANR) was lateral nasopharynx Xray. Tympanometry test is not a routine test carried out for patients with adenoid hypertrophy at our facility. In this study it was effectively used to detect the middle ear complications associated with adenoid hypertrophy such as otitis media with effusion. **Objective:** The main aim of the study was to determine correlation between radiological and tympanometry findings among pediatric patients with adenoid hypertrophy attending the otorhinolaryngology clinic at Muhimbili National Hospital. **Materials and methods**: This was a hospital based cross-sectional study design, conducted at otorhinolaryngology departmental clinic at Muhimbili National Hospital from July 2023 to January 2024 among patients aged below 18 years who were diagnosed with AH using lateral nasopharyngeal X-rays. Adenoid nasopharyngeal ratio was used to determine the grade of AH. The patients were sent for a tympanometry test. A designed structured data collecting tool was used for recording patients' demographic data, radiological findings obtained from the lateral nasopharyngeal x-ray radiography as well as tympanometry findings. Data were analyzed by using statistical package for the social

science (SPSS) version 24 and presented in cross-tabulations and figures. Correlation coefficient and the Chi-square test were used for statistical associations and compare proportions. P value <0.05 was considered statistically significant. **Results**: Majority of patients (53%) were aged 5-8 years, with males' predominance (61.6%). Common symptoms were snoring (32.2%) and mouth breathing (27.6%), while hypo nasal speech was rare (1.5%). Grade III AH was most common (50.4%), followed by grade IV (26.3%), and grade I was least common (1.3%). Tympanometry types varied, with type B most prevalent, right 56.0% and left 57.8%, followed by type A right 33.6% and left 31.0%, and type Ad least common (0.4%). The study observed a strong correlation between radiological and tympanometry findings with bilateral decrease in the proportion of type A and increase in proportion of type B with increase in radiological grades. ($r = 0.597$ for right ear, $r = 0.643$ for left ear, $p < 0.001$). **Conclusion and recommendations:** Adenoid hypertrophy grades III and IV were majority observed in 1 to 4 years. Males predominantly presented with grade I,II and IV, and female with grade III. Tympanometry type B was most commonly observed followed by type A, and least was type Ad bilaterally. The study found a strong correlation between radiological and tympanometry findings, noting a bilateral decrease in the proportion of type A and increase in proportion of type B as radiological grades increases. Implement regular screening for adenoid hypertrophy in pediatric patients aged 1 to 4 years, focusing on those presenting with symptoms snoring, mouth breathing, and hypo-nasal speech. Patients presented with severe adenoid hypertrophy (grades III and IV) accompanied by type B tympanograms, to consider performing adenoidectomy and grommet tube insertion together in a single setting. Standardized clinical guidelines integrating radiological imaging and tympanometry are recommended, with further research needed on longitudinal correlations and adenoidectomy outcomes.

242. Mohamed, S. (2024). Factors associated with HIV status disclosure to HIV infected children attending care and treatment centers in Morogoro municipal. Muhimbili University of Health and Allied Sciences.

ABSTRACT

Background: Depression is a rising health problem in the world. It is a disorder affecting mental health which involves symptoms like feelings of hopelessness, suicidal thoughts, sleep disruption, poor concentration, low self-esteem or guilty feelings, appetite changes, fatigue, diminished interest or pleasure, and in most severe cases, depression can result in suicide. University students consist of distinct demography and go through different life and academic stressful events as a result, they are at risk of depression, especially postgraduate students who have to balance between work, academic, family and financial responsibilities. **Objective:** This study aimed to determine factors associated with depression among postgraduate students at the Muhimbili University of Health and Allied Sciences (MUHAS). **Methodology:** A cross-sectional study design with a quantitative approach was utilized in this study, involving 377 students enrolled in postgraduate studies at MUHAS. Students were initially stratified according to the schools they are enrolled in, and then study participants were randomly selected from each school. Self-administered questionnaires containing the PHQ-9 score for depression and a scale that measures social support were used to collect data. Stata version 17 was used to analyse each objective whereas logistic regression analysis was performed to determine how the independent factors are related to depression. **Results:** A total of 377 postgraduate students participated in the study and their median age was 32 years, ranging from 25 to 55 years. Among the respondents, 90 (23.9%) had probable depression and factors which independently had an association with depression included physical activity (p-value 0.003), alcohol use (0.007), financial challenge (p-value 0.001) and social support (<0.001). Having higher social support was found to be a protective factor against depression. **Conclusion and Recommendation:** The study found that nearly one in four postgraduate students had probable depression whereas alcohol use, financial challenges, physical activity and social support had a significant association with depression. It is therefore recommended that postgraduate students engage in regular physical activities like joining sports clubs and limit alcohol intake. Additionally, qualitative research should be conducted to explore more about the factors associated with depression among the target population.

243. Monah, M. C. (2024). Prevalence and factors associated with irregular red blood cell antibodies among blood donors at eastern zone blood transfusion centre. Muhimbili University of Health and Allied Sciences.

ABSTRACT

Background: Red cell antibodies other than naturally occurring anti-A and anti-B antibodies are known as irregular antibodies. Irregular antibodies may be present in plasma of donated blood and can lead to transfusion reactions in recipients. Alloantibodies and autoantibodies are the two categories of abnormal red cell antibodies, they include antibodies from the system such as Rh, MNS, Duffy and Kell. The global prevalence of irregular antibodies ranges from 0.2% to 2%. Transmission of foreign red blood cells through blood transfusion, pregnancy, or organ transplantation can result in the development of irregular antibodies. However, there is limited information on the prevalence and factors associated with irregular antibodies among blood donors in Tanzania. **Objectives:** To determine the prevalence and factors associated with red cell irregular antibodies among blood donors at Eastern Zone Blood Transfusion Center, Tanzania. **Methodology:** A cross-sectional study was conducted at the Eastern Zone Blood Transfusion Centre located in the Dar es Salaam region. A total of 501 blood donors were enrolled and the study was conducted for 2 months. Blood samples collected from blood donors during the study period were analyzed. Donor information including demographic (age, sex, residence, and occupation) and clinical information (history of blood transfusion, history of organ transplant, multiparity) were collected through the participant's questionnaire. The data was entered in Microsoft Excel 2022, and analyzed by STATA version 15.1. Descriptive categorical data was summarized as proportional and the percentage of outcome analysis and continuous variables were summarized as mean and standard deviation. The chi-square test was used to examine differences between proportions. Logistic regression explained the relationship between the dependent variable and the presence of irregular antibodies. A value of ≤0.05 was considered significant**. Results:** Five hundred and one (N=501) blood donors were enrolled in this study. The mean age of was 32 years and standard deviation (SD) was 9.48. The

majority 65.3% of the participants were males, and 79.6% of all participants living in urban areas, 40% attained secondary school level of education; 57.7% were self-employed, and 83.6% did not have a vi history of blood transfusion. Prevalence of red cell irregular antibodies among blood donors was 7.6%. Higher prevalence was significantly ($p \leq 0.05$) seen in females, older age, those who has history of blood transfusion and those who has history of pregnancy. In this study being female [aOR 3.4, 95%CI 1.72-6.85, $p \leq 0.001$], have older age more than 40 years [aOR 4.4, 95%CI 1.29-15.00, p=0.018], have history of blood transfusion [aOR 3.1, 95%CI 1.536.42, p=0.002] were significant factors associated with red cell irregular antibodies. **Conclusion:** This study revealed a high prevalence of red cell irregular antibodies among blood donors. Having older age (>40 years), being female and having a history of blood transfusion are factors independently associated with red cell irregular antibodies. Only Packed Red Blood Cells (PRC) should be transfused when red cell antibodies are found, as these antibodies found in plasma are capable of causing hemolytic transfusion reactions in recipients.

244. Mosses, A. (2024). Process evaluation of the implementation of Enhanced Adherence Counselling among HIV patient with unsuppressed viral load in Ilala municipal Dar es salaam, Tanzania. Muhimbili University of Health and Allied Sciences.

ABSTRACT

Background: Despite advancements in antiretroviral therapy, HIV remains a significant global health challenge, particularly in Tanzania, which has a 4.65% prevalence rate. Enhanced Adherence Counselling (EAC), introduced by the World Health Organization in 2016, aims to improve adherence among patients with unsuppressed viral loads (VL). However, many patients in Tanzania still struggle to achieve VL suppression post-EAC. **Objective:** This study evaluates the implementation of EAC among HIV patients with unsuppressed VL in Ilala Municipality, Dar es Salaam. **Methods:** A cross-sectional descriptive study was conducted, combining quantitative and qualitative methods.

Multistage sampling was employed to select eight care and Treatment Clinics (CTCs) in Ilala, categorized by client load, with a random sampling approach applied to ensure representation. Quantitative data were collected from existing patient records using a pretested data extraction form on Open Data Kit (ODK). While qualitative data collected using Key informant interview using interview guide. Quantitative data was analyzed using STATA SE 14 (64-bit) software while thematic analysis using NVivo software was used to analyses qualitative data. Descriptive and ordered logistic regression analysis were performed at $p < 0.05$. Multivariable logistic regression analysis was conducted to assess the independent association between various factors and viral load suppression. **Results:** Out of 361 patients, 86.2% were enrolled in EAC, with age significantly associated with enrollment. Among the 256 who completed EAC, 68.4% achieved VL suppression. Factors such as initial VL levels and age significantly correlated with suppression rates. Qualitative findings revealed that while counsellors understood EAC protocols, they faced challenges including outdated training and resource limitations. The median time to initiate EAC after high VL detection was 27 days, and most clients completed EAC within three months. **Conclusion:** The study demonstrates a high enrolment rate of 86% among patients with unsuppressed viral loads (VL) in the Enhanced Adherence Counseling (EAC) program

245. Moyo, V. (2024). UCME Effect of an educational intervention on nurses' knowledge, compliance, and barriers regarding the implementation of a surgical site infection prevention bundle at Mzuzu Central Hospital in Malawi. Muhimbili University of Health and Allied Sciences.

ABSTRACT

Background: Surgical site infections are the second largest category of healthcare-associated infections. Infection prevention care bundles, such as the surgical site infection prevention bundle, are a well-known strategy to reduce surgical wound infections amongst hospitalized patients. Despite their potential to reduce surgical wound infections, a lack of understanding and awareness of the surgical site infection prevention bundle

amongst nursing staff remains a challenge in sub-Saharan Africa, hence the inability to integrate them into clinical practice. **Study Aim:** To test the effect of an educational intervention on nurses' knowledge, compliance, and barriers regarding the implementation of a surgical site infection bundle and associated barriers at Mzuzu Central Hospital in Malawi.**Materials and Method:** A one-group pre-post-test quasi-experimental research design was employed at Mzuzu Central Hospital. A stratified random sampling technique was used to recruit 90 nurses from eight departments dealing with surgical patients. A pre-post-test questionnaire was used for data collection. The study measured three variables, knowledge, compliance, and barriers, with knowledge being tested three times at three different time points, pretest, immediate pos-test, and follow-up test at four weeks. Data was analysed using SPSS version 25. Both descriptive and inferential statistics were used to analyse the data. The chi-square test was used to determine the association between sociodemographic characteristics and knowledge. Repeated measures ANOVA were used to statistically determine changes in the average mean scores for a pretest, immediate posttest, and a follow-up posttest at four weeks. P-values of 0.05 were set as a cut-off point for significant findings. **Results:** Only 8% of the nurses had adequate knowledge of SSI prevention strategies, and only 1% of the participants were aware of the SSI prevention bundle in a pretest assessment. There was, however, significant improvement in the knowledge level immediately after the education intervention to 97% and 100% during a follow-up test at one month after the intervention. The mean scores were compared, and the mean was higher for follow-up results (M=14.78, SD=1.819), as compared to the immediate post-test results (M=12.36, SD=1.691) and the pre-test (M=5.96, SD=1.550). The difference in means was statistically significant at 1%. There were also improved compliance ratings also after the intervention compared to before the education session. The mean score before the intervention was 20.09 and increased to 30.00 after the educational intervention. There was a statistically significant difference in nurses' ratings before and after the intervention, with a p-value of 0.0000. The most reported barriers in this study were: unavailability of resources 67(82%), lack of interprofessional collaboration 56(69%), workload 47(57%), and absence of guidance from departmental leaders 45(55%).

Conclusion: The findings of this study suggest that providing an education intervention to nurses not only improves their knowledge level but also improves their compliance to guidelines in practice. The barriers identified in this study highlight critical areas for improvements in healthcare settings to ease guideline compliance and implementation. **Key words** Barriers, compliance, knowledge, nurses, surgical site infection bundle

246. Mponzi, T.E. (2024). determinants of depression and anxiety among family caregivers of patients attending maintenance hemodialysis at tertiary Hospital, Tanzania. Muhimbili University of health and allied sciences.

ABSTRACT

Background: Family caregivers play essential roles; financial assistance such as bill payment, linkage communication between patients and healthcare professionals, proximal follow-up of treatment plans, proper cleanliness, and nutrition planning. Family caregivers experience anxiety and depression while carrying out this duty. Therefore, this study was assessing the prevalence of depression, anxiety and associated factors among family caregivers of patients with end stage kidney disease receiving hemodialysis services at Benjamin Mkapa Hospital and Muhimbili National Hospital. **Materials and Methods:** Analytical cross-sectional study design was employed. Participants in the study were chosen by convenience sampling method, and information was gathered using a standardized HADS questionnaire and an administered questionnaire. Data was analyzed using the Statistical Package for Social Sciences (SPSS) software version 26. A descriptive statistic was run to obtain mean and standard deviation, frequency and percentages for socio-demographic characteristics of the study participants. Also, a chi-square test was used to test the association of the socio-demographic data and Depression /anxiety. Furthermore, logistic regression was conducted to all variable with p-value less than 0.2 so as to determine the predictors of depression and anxiety. Data was displayed using statistical tables and charts, and statistically significant was defined as a p-value of less than 0.05. **Results:** This study recruited a total of 300 family members. The mean age was 38.22 years (10.38 years SD), and the majority were females, 188 (62.7%).

Depressive symptoms and anxiety were present in 64% and 57%, respectively. Caregiver ages, being spouses as caregivers, as well as parent caregivers, were associated with anxiety and depression while male care givers and education levels were associated with anxiety alone. **Conclusion:** This study demonstrated a high prevalence of depression and anxiety scores among family caregivers of patients with chronic kidney disease receiving hemodialysis services. This has a negative impact on the quality of care provided to patients and their health outcomes. It is therefore imperative that healthcare professionals devise plans that aid in the early detection and mitigation of the consequences caused by anxiety and depression.

247. Mringo, B. (2024). Uptake of intermittent preventive treatment of malaria in pregnancy using sulfadoxine-pyrimethamine (iptp-sp) in Mpanda Municipal Council, Katavi Tanzania. Muhimbili university of health and Allied Sciences.

ABSTRACT

Background: Intermittent preventive treatment consuming Sulphadoxine-Pyrimethamine (SP) has proven to reduce antagonistic outcomes of malaria during pregnancy to fetus and mother. Though SP-IPTp policy has been executed in Tanzania for the last 5 years using new guideline for ≥ 3 doses of Sulphadoxine-Pyrimethamine, coverage has continued to be low by 32%. A study in Mpanda Municipal Council, Tanzania, investigated issues poignant to uptake of SP-IPTp during pregnancy to support national and international efforts. **Materials and Methods:** This cross-sectional quantitative study took place in Mpanda Municipal council with a total population of 245,764 in the Katavi region, involving 371 postnatal mothers in 3 Health Centres. The study utilized structured questionnaires that were administered face-to-face. The data were analyzed using SPSS version 22.0. For univariate analysis, descriptive statistics were used; for bivariate analysis, cross-tabulations were used to determine the relationships between variables. For multivariate analysis, multivariate logistic regression was employed. **Results:** Of the surveyed postnatal women 112 (30 %) received three dosages of IPTp-SP while 128 (34 %) took less than three dosages of SP. The mean age was 27.34 ± 6.416 years, and 169

(45.6%) of the sample were aged between 25-34 years. The uptake of three doses of IPTp-SP was significantly associated with the gestation age at which she had the first dose (P = 0.003), interval duration between dosages of SP (P < 0.001), means of calculating the gestation age to use SP (P = 0.001) and knowledge of the minimum dosage of SP required during pregnancy (P<0.001). Those who took SP between 20 weeks to 24 weeks gestations had 2-fold likelihood to receive three doses of SP during pregnancy (aOR=1.7, 95% CI 0.29-10.52) **Conclusion:** This study has found low uptake of three doses of IPTp-SP in the study area. To increase coverage, regular supportive supervision on adherence to IPTp-SP policies and guidelines is necessary. Gestational age at first ANC visit, frequency and distance from the health facility determines uptake of 3 dosages of IPTp-SP It is evident that efforts should be directed towards early and more frequent ANC visits and outreach services such as community IPTp for facilities located far from communities which required further research to create more evidence.

248. Mruma, H.R. (2024). Prevalence of inpatients elective orthopedic surgical procedures cancellations and associated factors at Muhimbili Orthopaedic Institute. Muhimbili University of Health and Allied Sciences.

ABSTRACT

Background: Cancellations of elective surgeries is a worldwide challenge, affecting patients and health facilities. Cancellations cause negative financial impact on the hospital and patients, disrupts theatre workflow, lowering staff morale thus contributing to poor health care quality. An acceptable cancellation rate of elective surgeries is less than 5%, though most theatres have higher rates of up to 40%. There is insufficient data on rates and causes of elective orthopaedics surgical cancellations in Tanzania. **Objective The objective:** was to determine the rate of cancellation of elective orthopaedic surgical procedures and identify the factors associated with such cancellations among inpatients at Muhimbili Orthopaedic Institute. **Methodology:** This was a hospital based cross-sectional study conducted at MOI among inpatients scheduled for elective orthopaedics surgical procedures. Data was collected from 2nd May 2023 to 30th June 2023. Patients

scheduled for elective surgery and whose procedures were cancelled on the day of surgery were included in the study. Statistical analysis was done using chi square and Fisher's exact tests, by using SPSS Version 26 and STATA 17. **Results:** The prevalence of elective surgical procedure cancellations was 12.5% in our hospital, higher than the international benchmark of 5%. Facility-, patient-, and surgical-related factors were the leading causes of cancellations. The most common facility-related factors were lack of theater time and lack of blood, while patient not in the ward was the most common patient-related factors. Overbooking was the most common surgeon factor. Anaesthesia-related factors included patient not being optimised and failed intubation. **Conclusion**: The prevalence of elective procedure cancellation is high and this could be reduced by instituting better organisation and communication between relevant role players within the operating theatre.

249. Msechu, H. (2024). Outcome evaluation of national health insurance fund online claim submission on aging among health facilities: a cross-sectional studyin Dar es Salaam. Muhimbili University of Health and Allied Sciences.

ABSTRACT

Background: The Tanzanian National Health Insurance Fund (NHIF) reimburses health service providers' claims submitted based on services provided. This has been done using a paper-based system over time. The introduction of online claim submission has modified the claim management cycle by eliminating some stages and reducing the time required to complete claim processing. The effects of the online claim submission program since its introduction to the NHIF claims management process, particularly on claims aging, have yet to be determined. **Objective:** This study aimed to assess the effect of the NHIF's online claims submission program on their respective aging among health facilities enrolled in the Dar es Salaam region. **Materials and methods**: This cross-sectional study employed a quantitative method to analyze secondary data from the NHIF database. Data was collected on the facility's involvement in the online claim submission in relation to the claim age. The study involved health facilities enrolled in the Online

Claim Submission Program of the NHIF located in the Dar es Salaam region. Data was collected by using an abstraction form. The gathered data was entered into Microsoft Excel and then uploaded into Stata version 18 for analysis. Muhimbili University of Health and Allied Sciences Institutional Review Board approved this study. Additionally, clearance to retrieve data from NHIF was requested from the NHIF Director General's office. Medians (IQR) and proportions were used to describe background variables and outcomes. The Mann-Whitney test was used to compare the median (IQR), and Pearson's chi-square was used to test for proportional differences in the time of monthly claim submission and claim aging of both online and paper claims. Logistic regression was performed to determine factors influencing claim aging. **Results**: 845 claims from 71 health facilities were analyzed. The overall median (IQR) claim submission time by health facilities when submitting online claims was shorter, 6 (IQR 3, 11) days, than when submitting paper claims, 13 (7, 26) days ($p < 0.001$), with two-thirds (66.1%) of online claims being submitted timely. The overall median (IQR) claim aging for online claims was lower, 44 (IQR 28, 68) days, than for paper claims, 62 (49, 72) days ($p < 0.001$). Only 8.1% of online claims were reimbursed timely (within 14 days), while 48.1% of paper claims were reimbursed timely (within 60 days). Delayed claim reimbursement in online claims was associated with the number of folios submitted to NHIF by health facilities, whereby for every extra 2000 folios, aging increased by one day (AOR=1.0005; 95% CI: 1.0001 – 1.001, $p<0.05$). **Conclusion**: The online claim submission program significantly reduced claim submission time and claim aging of health facilities compared to before the program. However, the target for claim aging has yet to be achieved. This implies that there still needs to be more cash flow for the service providers who depend on these funds to provide medical services to NHIF beneficiaries, which may negatively impact the quality of services rendered to their clients. **Recommendations:** NHIF management should review claim processing functions and devise innovations, such as automating them, to cope with the expected rise in claims as it recruits more beneficiaries to overcome delayed claim payments. A qualitative study should be considered to explore factors that influenced delayed claim reimbursement during program implementation.

250. Mshanga, F.J. (2024). Willingness to Pay for Universal Health Insurance and Associated Factors Among Households in Mkuranga District. Muhimbili University of Health and Allied Sciences.

ABSTRACT

Background: A better acquaintance and understanding of the community willingness to pay (WTP) for universal health insurance is highly effective way to address catastrophic payment when accessing and utilizing healthcare services from formal healthcare providers in the country. **Objectives:** To assess willingness to pay for universal health insurance and its associated factors among households in Mkuranga district. **Methodology:** Cross-sectional analytical design was employed to elicit the maximum WTP for universal health insurance among 406 head of households in Mkuranga districts. The data collection techniques included structured interview form with open and closed questions and Take -it- or -leave- it with follow-up technique. Analytical data analysis was used to analyse the data. **Results:** Out of 406 surveyed households only 16% reported to have any health insurance, however majority (79%) of heads of households were willing to pay for UHI. The mean annual premium WTP for universal health insurance was also higher among male headed household 180,443 TZS as compared to women 142,019 TZS. Logistic regression shows that with marital status, education level, income, age, and having chronic illness is positively associated willingness to pay while having a negative association not employed. **Conclusion**: The results suggested that majority of the heads of households were willing to pay for UHI. Moreover, despite of high demonstration in willingness to pay for health insurance less than half of the participants are able to pay the proposed premium rate. Therefore, it is very important to study WTP of the community before establishing new schemes.

251. Msige, B.J. (2024). In-hospital Mortality and Its Predictors Among Geriatric Medical Patients Presenting to Emergency Medicine Department of Muhimbili National Hospital Upanga and Mloganzila Campus. Muhimbili University of Health and Allied Sciences.

ABSTRACT

Background: Geriatric patients represent a growing proportion of the presentations to the Emergency Medicine Department (EMD). Given the frequently complex nature of their underlying medical illnesses, this population presents particular challenges to clinicians. The predictors of 48-hour in-hospital mortality for those attending EMD must be considered for early identification and prompt and effective resuscitation to improve outcomes. **Objective:** The objective of this study was to determine the 48-hour in-hospital mortality and its predictors among geriatric medical patients presenting to EMD of MNH Upanga and Mloganzila campus. **Methodology:** This was a prospective open cohort observational study involving medical geriatric individuals 60 years and older triaged to resuscitation rooms, consented, recruited consecutively between October and December 2023. The study's ethical clearance was given by MUHAS IRB and MNH. The primary outcome was in-hospital mortality at 48 hours with EMD mortality and EMD Length of Stay (LOS) as the secondary outcome. Univariate regression analysis was performed and those variables with p value <0.05 were subjected to multivariate analysis to identify independent predictors of mortality. **Results:** During the study period 13,957 patients presented to EMD, of whom 2,476 (17.7%) were geriatric individuals. Among the geriatric individuals, 436(17.6%) were triaged to the resuscitation room as emergency cases, whereas 293(67.2%) met the inclusion criteria for this study. The median age of study participants was 70 years IQR (65,76) more than half being males 174(59.4%). In-hospital Mortality at 48hours was 27(9.2%) with 6(2%) deaths occurring at EMD. Median EMD LOS was found to be 4 hours (238.5minutes). Independent predictors of mortality were found to be altered mental status (OR=2.96, 95% CI 1.24-7.06, P Value<0.014), difficulty in breathing (OR=2.41, 95% CI 1.08-5.37, P Value<0.031), Low SPO2 (OR=2.38, 95% CI 1.01-5.63, P Value<0.048) and electrolyte imbalance (OR=2.83,1.12-714, P Value<0.028). **Conclusion:** The mortality rate in geriatric medical patients who presented to the EMD resuscitation room as emergency cases is high with altered mental status, breathing difficulties, low oxygen saturation, and electrolyte imbalances being independent predictors of mortality.

252. Msigwa, G.K. (2024) quality of data after decentralization of civil registration and vital statistics in Iringa region 2016 -2022. Muhimbili University of Health and Allied Sciences.

ABSTRACT

Background: Globally, the Civil Registration and Vital Statistics (CRVS) Systems are insufficient to meet the needs of various governments, as approximately one-third of births go unrecorded and approximately half of deaths go unreported. More than one billion individuals worldwide lack a legal identification, which implies that they could be denied their rights, access to services like health and education, and involvement in political and economic progress. In the majority of Sub-Saharan African (SSA) nations, the CRVS is not complete. Tanzania is now undergoing several reforms on CRVS systems, including legal review reforms, which have accelerated the decentralization of CRVS services in many regions in the country since 2013. It's, therefore, important to strengthen the CRVS systems to make sure that all vital events that happen in our territories can adequately be accounted for. Aim of the study: This study aimed at assessing the quality of data after the decentralization of Civil Registration and Vital Statistics in the Iringa Region 2016-2022. Materials and **methods:** The goal of this study was to conduct a mixed-methods analysis of CRVS data obtained from all healthcare facilities via the District Health Information System (DHIS2) and Civil Registration Centers (wards) under Local Government Authorities (LGAs) via CRVS databases. This data was from all Councils of the Iringa region (Rural and Urban Councils), which was the first region to decentralize death registration and deploy various interventions to improve the quality of causes of death data as completed by the clinicians through the Medical Certificate of Cause of Death forms. In addition, qualitative data was collected and analyzed to determine factors that led to the change in trends of CRVS data in Iringa, whereby the structured questions through a questionnaire were completed by officials at ward level who collect data and those who are decision-makers from the key CRVS implementing institutions (MoH, RITA, and PoRALG). Data on death registration completeness was analysed by using STATA, and quality of causes of death was

analysed by using ANACoD3. Findings: This study included a total of 295 health facilities (privately and government-owned) and wards responsible for collecting and registering vital events in the Iringa region. The findings revealed an enhancement in the CRVS system following the implementation of interventions in Iringa, specifically in the quality of medical certification of causes of death. The percentages increased from 86% in 2016 to 93% in 2019, 91% in 2020, 92% in 2021, and returned to 86% in 2022, aligning with the baseline level. Notably, seven ill-defined causes (Infectious and parasitic diseases, Neoplasms, Diseases of blood, Diseases of the circulatory system, Symptoms and signs, and External causes of morbidity and mortality) consistently appeared throughout the five-year study period. Meanwhile, the overall completeness of death registration in the entire region was initially low for both males (12.4%) and females (6.7%) before the necessary interventions. However, after the application of interventions, completeness increased to 15.2% for males and 14.9% for females in the year 2022. Over the five years, the trend in completeness for males was slightly higher compared to females. Scaling up interventions through institutionalization was observed to be a critical step towards CRVS improvement. **Conclusion:** There has been an improvement in the quality of Civil Registration and Vital Statistics (CRVS) in the Iringa region during the study period. However, this improvement has been incremental, with some fluctuations in the quality of CRVS observed. These variations can be attributed to the challenges on negligence in using CRVS guidelines that persisted throughout the region over the years covered by the study. The government and other stakeholders must take into consideration the proposed interventions highlighted in this study. Addressing these interventions is essential to bridging the existing gaps before extending the interventions to additional regions. Keywords: Civil Registration and Vital Statistics, Completeness, Medical Certification of Causes of Death, and Death Registration.

253. Msuguru, S.M. (2024). Assessing structural factors influencing health-seeking behaviour of women diagnosed with breast cancer at Ocean Road Cancer Institute, Dar es salaam, Tanzania. Muhimbili University of Health and Allied Sciences.

ABSTRACT

Background: In Tanzania, breast cancer is the second most common cancer after cervical cancer accounting for 9.9% of all new cancer cases, and is the 4th common cause of death accounting for 7.3% of all cancer deaths. Studies have shown that there is a high awareness of breast cancer but still, women report at health facilities with advanced stages of disease that account for excess mortality. Understanding the health-seeking behaviour of women with breast cancer is fundamental to understanding why this trend happens. **Aim of the study**: This study aimed to assess structural factors that influenced the health-seeking behaviours of women diagnosed with breast cancer at Ocean Road Cancer Institute. **Materials and methods**: This study employed a **descriptive** cross-sectional design using a quantitative approach. The study was conducted at Ocean Road Cancer Institute. Simple random sampling was used to recruit 272 participants. A structured Swahili questionnaire was used to collect data from 17 May to 6 June 2024. Data analysis was done by using SPSS Version 27. The chi-square test was used to measure distribution between groups and multivariate analysis was used to determine association between variables. A p-value of < 0.05 was considered statistically significant. **Results**: The mean age of participants was 48.18±11.79 years, almost half of them,139(51.1%) and 137 (50.4%), had primary education and lived in rural areas respectively. This study revealed that most of the participants, 220 (80.9%) had poor health-seeking behaviour. It was noted that the Lack of breast cancer education, no formal education, and belief in witchcraft were associated with poor health-seeking behaviour (aOR = 2.9, 95% CI: 1.9-7.87, p = 0.003). (aOR = 3.9, 95% CI: 1.01-14.94, p = 0.05) and (aOR = 0.5, 95% CI: 0.21-0.95, p = 0.04) respectively. **Conclusion;** Health education on breast cancer, formal education, and cultural beliefs affect health-seeking behaviour. addressing educational disparities, improving healthcare infrastructure, and implementing culturally sensitive interventions are essential to enhance health-seeking behaviours in this population.

254. Msuya, F.Y. (2024). Clinical characteristics, etiologies, and factors associated with etiologies of hoarseness of voice among patients attending Muhimbili National Hospital. Muhimbili University of Health and Allied Sciences.

ABSTRACT

Background: Worldwide, hoarseness can affect people of various ages and genders. Identifying the causes involves gathering a comprehensive medical history of events leading to its onset and conducting a meticulous physical assessment. The latter could entail visualizing the vocal cords, potentially using techniques such as indirect laryngoscopy or flexible nasopharyngolaryngoscopy. **Objectives:** This study aims to assess the clinical characteristics, etiologies, and factors associated with the etiologies of hoarseness of voice among patients attending Muhimbili National Hospital. Materials and **Methods:** A cross-sectional study was conducted at MNH from September 2023 to April 2024. After obtaining ethical clearance from IRB under Muhimbili University of Health and Allied Science. The data were collected and analyzed using SPSS version 27. Patients' demography, clinical characteristics, and etiologies were reported using descriptive statistics. Chi-square ($\chi 2$) tests were used to examine associations between risk factors and etiologies as a factor associated with hoarseness of voice. **Results:** The study involved 171 patients at the ENT clinic, with a median age of 50 years (IQR;3,80). The male-to-female ratio was 1.14:1, smoking was reported in 40.9% while 31.6% consumed alcohol. Clinically, patients commonly experienced chronic cough (38.6%) and Globus sensation (64.3%). Laryngeal examination revealed fungating masses in 49.1% of cases and vocal cord papilloma in 17.5%. Significant associations were found between smoking, alcohol consumption, and laryngeal malignancies, with 87.1% of smokers and 85.2% of alcohol users affected (p=0.001). Neck surgery and intubation were linked to vocal cord paralysis (p=0.001). **Conclusion:** The study found that hoarseness of voice in patients was significantly associated with smoking, alcohol consumption, and certain medical histories like neck surgery and intubation. Most cases were linked to laryngeal malignancies, with notable laryngeal abnormalities observed. These findings highlight the importance of targeted interventions for high-risk groups.

255. Mtafu, N.H. (2024). Factors influencing the treatment outcomes of Patients undergoing urethroplasty for urethral Stricture at Muhimbili National Hospital. Muhimbili University of Health and Allied Sciences.

ABSTRACT

Background: Urethral stricture disease poses a substantial challenge in sub-Saharan Africa, where the prevalence is notably high. This condition predominantly impacts men, and the underlying causes in the region are diverse and varied. There is a significant research gap in understanding the patient-related factors that contribute to the outcomes of urethroplasty for urethral strictures at Muhimbili National Hospital. **Objectives:** To determine the factors influencing treatment outcomes among patients undergoing urethroplasty for urethral stricture at Muhimbili National Hospital. **Methodology:** This cross-sectional analytical retrospective study was carried out at Muhimbili National Hospital. Through convenient sampling, data from the hospital's patient database, specifically from patients aged 10 years and above, were extracted using a structured abstraction form. Patient information, clinical findings, treatment offered, and treatment outcomes were collected. The collected data were analyzed using SPSS 23. **Results:** This study examined 126 patients with urethral stricture who underwent urethroplasty at MNH between January 2020 and December 2022. The mean age was 51 years, with the bulbar urethra being the most common stricture site (54%) and trauma the leading cause (44.4%). The comorbidities included diabetes (21.4%) and hypertension (71.4%). Most strictures were short (77%). Excision and primary anastomosis (EPA) procedures were preferred over buccal mucosal grafting (BMG) procedures (60.3% vs. 39.7%). The success rate of urethroplasty was 85.7%, with a 15.9% complication rate. Early complications included surgical site infections (54.5%), painful scrotum (36.4%), and wound dehiscence (9.1%). Late complications predominantly consisted of irritative lower urinary tract symptoms (83.3%), stress incontinence (5.6%), and erectile dysfunction (11.1%). Younger patients (<60 years) and those with infectious etiologies had significantly higher success rates. The type of vi stricture, length of stricture, surgical approach, and catheter type did not significantly impact outcomes. **Conclusion:**

Urethroplasty had a high success rate of 85.7%, particularly in younger patients and those with infectious etiologies. Trauma was identified as the most common cause of urethral strictures, primarily affecting the bulbar urethra. Postoperative complications, both early and late, were observed, indicating the need for careful postoperative monitoring. Factors such as stricture level, length, surgical approach, and catheter type did not significantly impact the success of urethroplasty.

Keywords: Influencing factors, treatment outcomes, urethroplasty

256. Mtima, C. (2024). Lived experiences of cervical cancer survivors at the Malawi National cancer center. Muhimbili University of health and allied sciences.

ABSTRACT

Background: Global incidences of cervical cancer are continuously on the rise. Experiences of cervical cancer patients vary based on multiple factors such as physical characteristics, cultural, spiritual, and socio-economic inequalities. Despite variance in the patient experiences, there is little information regarding cervical cancer patient experiences in Malawi. Aim The purpose of the study was to explore the lived experiences of cervical cancer survivors at the Malawi National Cancer Center (MNCC). **Methods:** A qualitative study with a phenomenological design was conducted from March to April 2024 involving 12 cervical cancer survivors. The survivors were those who had a histologically confirmed diagnosis and had at least three months treatment history up to those on follow-up. Purposive sampling was used to collect a sample of cervical cancer survivors. Data collection was done by using a semi-structured interview guide. Survivors were recruited after reviewing the MNCC's registry and patient records for eligibility. Written consents for participation were obtained from survivors. All of the interviews were recorded and transcribed verbatim afterwards. Data was analyzed using manual thematic analysis as inspired by Braun and Clarke. **Results:** Four themes and twelve sub themes on experiences of cervical cancer survivors receiving care at the Malawi National cancer Centre were developed following data analysis. The themes were; Intrapersonal experiences where the survivors experienced varied physical,

emotional, and financial burdens, Interpersonal experiences where social support varied with some survivors experiencing strengthened relationships while others faced stigma., community experiences where misconceptions and cultural beliefs cause stigma and discrimination causing delayed seeking of care; and institutional factors where survivors reported having varied interactions within the healthcare system. **Conclusion:** Living with cervical cancer is cumbersome. Survivors' lives changed after their diagnosis of cervical cancer due to the effects of the disease and its treatment side effects, changed social relationships, community outlook and different treatments from the institutions they seek care from.

257. Muhiddin, N.M. (2024). Prevalence And Pattern of Hearing Loss Among Patients with Diabetes Mellitus Attending Diabetic Clinic at Mnazi Mmoja Hospital – Zanzibar. Muhimbili University of Health and Allied Sciences.

ABSTRACT

Background: Background: Diabetes mellitus is one among non-communicable disease affecting many people worldwide and its association with hearing loss has been a study of interest of many researchers describing the details of its pathogenesis. Hearing loss is said to be bilateral mostly affecting high frequencies. **Objectives:** The purpose of the current study is to determine the prevalence of hearing loss, the types, laterality and degree of hearing loss in patients with diabetes mellitus attending diabetic clinic at Mnazi Mmoja Hospital – Zanzibar. **Methodology:** A cross-sectional study design was used and included all patients with diabetes mellitus attending diabetic clinic at Mnazi Mmoja hospital, Zanzibar. Otologic examination using portable otoscope and hearing assessment using pure tone audiometer was done. Demographic data and hearing assessment findings were documented in the data collecting sheet. Audiogram chart which was included in data collection sheet. Data analysis for dependent variables were done using SPSS software version 23. To determine the association of variables the Chi-Square and Fisher's exact tests were used. P-value of < 0.05 was considered significant at a confidence interval of 95%. **Results:** A total of 146 diabetes mellitus patients recruited in

the current study, females predominated by 69.9%. Hearing loss prevalence found to be 22.6%, mostly occurs bilaterally 88.9% and affects elderly. The leading type of hearing loss observed was SNHL across all age groups. Majority of patients had mild hearing loss in all age groups and none had profound hearing loss. **Conclusion:** Hearing loss accounts for 22.6% in diabetes mellitus patients manifesting as bilateral mild sensorineural hearing loss. However, it may vary and present with moderate degree and interferes with normal social communication. **Recommendation:** Introduction of screening protocol from time to time in all diabetes mellitus patients. Raising awareness in both health workers and the community particularly people living with diabetes mellitus about the effects of chronic hyperglycemia to hearing mechanism. More studies should be conducted with larger sample size across the whole Zanzibar Islands so as to explore those areas untouched by this study and to shade light on the true picture concerning this condition.

258. Mujuni, E. (2024). Predictive factors for prosthetic fitting after diabetic foot amputation at a tertiary hospital: a retrospective review. Muhimbili University of Health and Allied Sciences.

ABSTRACT

Background: Amputations are frequently performed as a life-saving procedure in underdeveloped nations due to trauma, infection, uncontrolled diabetes mellitus, and malignancy. Diabetes is a major contributing factor to lower limb amputation. Prosthetic rehabilitation plays a crucial role in restoring functional mobility for diabetic foot amputees, allowing them to regain independence and actively engage in their communities. Lack of access to prosthetic rehabilitation in low- and middle-income countries, limb loss causes significant physical, financial, social, and emotional effects, which affect their overall quality of life. Aim: To determine factors that predict prosthetic fitting of diabetic foot amputees at Muhimbili National Hospital Complex. **Methodology:** This was a retrospective cross-sectional study among diabetic lower limb amputees at Muhimbili. Patients were included if they had transtibial or transfemoral amputation, healed stump, are available to participate, and provide consent to be

interviewed. Variables collected included demography, clinical features, and type of amputation, which were collected using a predefined data abstraction sheet on the RedCap platform. Analysis was conducted using SPSS software version 27 to establish the prosthesis fitting rate and factors associated with it among diabetic amputees. A significant association was considered when the P-value was <P < 0.05. **Results:** A total of 146 diabetic foot amputees met the study criteria and were included with a Median age of 61 years with IQR 28.9, the majority of which were ≥55 years at 81(55.50%) of study participants. Most of the patients were male at 88(60.03%). Only 17(11.6%) of the patients had a foot prosthesis fitted with age <55, female sex, education of prosthesis, attending physiotherapy, and referral to prosthesis being significant predictors. **Conclusion:** Prosthetic rehabilitation rates are low among diabetic limb amputees at Muhimbili. There are low referral rates for prosthetic fitting among limb amputees at this facility, and this needs to be addressed. Only 50% of referred patients.

Keywords: Rehabilitation, Prosthetic fitting, Amputation of limb, Limb loss surgery

259. Mulungu, S. (2024). Factors associated with the underutilization of molecular who- recommended rapid diagnostics in confirming bacteriological TB cases in Dar es salaam Tanzania. Muhimbili University of Health and Allied sciences.

ABSTRACT

Background Tanzania is one of the thirty high TB burden countries globally. In 2012, GeneXpert was introduced as the first molecular TB diagnostic test. Despite its widespread implementation, its utilization remains suboptimal, leading to a high proportion of clinically diagnosed TB cases without universal drug susceptibility testing (DST). **Objective** This study aimed to identify factors associated with the underutilization of molecular WHO-recommended Rapid Diagnostic (mWRDs) technologies in confirming bacteriological TB cases in Dar es Salaam, Tanzania. **Materials and Methods** A cross-sectional quantitative study was conducted among 153 healthcare providers from 30 TB diagnostic facilities in Dar es Salaam. Data were collected using a structured questionnaire via Kobo Toolbox and analyzed using SPSS

version 27. Bivariate and multiple logistic regression models were used to assess associations between socio-demographic, healthcare worker, technological, and infrastructural factors, with a significance threshold of 0.05. **Results:** Of the respondents, 78.4% were from public health facilities. Public facilities were significantly more likely to utilize mWRDs compared to private ones (AOR: 106.66, 95% CI: 4.34-2620.05, p = 0.004). Facilities that adopted mWRDs as the initial TB test also had higher odds of utilization (AOR: 12, 95% CI: 1.95-73.69, p = 0.007). However, factors like secondary care facilities, space for machine installation, and stable power supply did not show significant associations after adjustment. Similarly, healthcare worker-related factors such as training and correct TB test requests did not significantly impact utilization after adjustment. **Conclusion and Recommendations:** The study found a significant association between mWRD utilization and healthcare worker, infrastructure, and technology-related factors. Regular training and strategic placement of mWRD machines are recommended to enhance optimal utilization.

260. Mungure, J. (2024). Postnatal mothers' perspectives on the current eight required antenatal contacts at Mwananyamala Hospital in Tanzania. Muhimbili University of Health and Allied Sciences.

ABSTRACT

Background: Antenatal care (ANC) is crucial for maintaining healthy pregnancy outcomes and identifying pre-existing medical conditions. Despite WHO recommendations for at least eight prenatal visits for improvement of pregnancy outcomes, it may also lead to frustration and decreased quality of care. There is a lack of information on the effect of additional ANC visits on compliance and completion of recommended eight contacts. **Objective**: To explore the perspective of postnatal mothers on the current 8 required antenatal contacts at Mwananyamala Hospital. **Methodology:** This exploratory qualitative study was conducted among women attending postnatal care (PNC) at Mwananyamala Regional Referral Hospital (MRRH). A purposive sampling technique was used to select a sample of 15 women attending PNC at MRRH determined

by the saturation of insights. Data were collected through in-depth interviews guided by a prepared interview guide. Data analysis was performed using a thematic approach, whereby recurring patterns and themes were identified. The Navigo 10 software facilitated the process of coding and subsequent organization into broader categories and themes. **Findings**: This study found three themes which are participants' understanding of the importance of eight ANC contacts, facilitators of ANC visits, and barriers to achieving the recommended contacts. Participants recognize that more frequent ANC visits address the increased disease burden and meet growing healthcare demands through comprehensive services like ultrasounds. Facilitators include spousal support, quality healthcare services, financial planning, and government subsidies, which motivate women to prioritize their health. However, barriers such as financial challenges, physical disabilities, late initiation of care, and lack of awareness, misinformation, logistical obstacles, long waiting times, communication issues, and perceived poor service quality hinder timely and adequate prenatal care for many women. **Conclusion:** The study's findings highlight the importance of frequent antenatal care (ANC) visits, recognizing that they address increased disease burden and healthcare demands through comprehensive services. Facilitators such as spousal support, quality healthcare, financial planning, and government subsidies motivate women to prioritize their health. However, barriers like financial challenges, physical disabilities, late initiation of care, lack of awareness, misinformation, logistical obstacles, long waiting times, communication issues, and perceived poor service quality hinder timely and adequate prenatal care. Addressing these issues through enhanced education, improved healthcare services, financial and logistical support, and policy advocacy can significantly improve ANC attendance and maternal health outcomes.

Keywords: Antenatal Care (ANC), Maternal Health, Prenatal Visits, Postnatal Mothers, Healthcare Barriers, Facilitators of ANC, Thematic Analysis.

261. Munisi, S.E. (2024). Respiratory causes of medical admissions among patients previously treated for Pulmonary TB at Muhimbili National Hospital from June 2016-December 2022. Muhimbili University of Health and Allied Sciences.

ABSTRACT

Background: Tuberculosis (TB) is an infectious disease that is caused by the bacillus Mycobacterium tuberculosis, one of the top ten causes of deaths worldwide. Despite microbiological cure following a course of anti-tubercular drugs, patients continue to present with persistent respiratory symptoms attributable to chronic lung disease that complicates TB infection. These complications can be misinterpreted as TB relapse, multidrug-resistant (MDR) or other active TB diseases, often times causing unnecessary courses of repeated anti-TB treatment. These lifelong chronic lung complications and other co-existing conditions are a cause of frequent hospital visits and admissions that also impair patients' quality of life. The common causes of hospital admission for post TB patients in Tanzania are unknown, thus the need for this study. **Objective:** To determine the various causes of hospital admissions and relate them to patients' characteristics among patients previously treated for pulmonary TB admitted in medical wards at Muhimbili National Hospital in Dar es Salaam, Tanzania. **Methodology:** A Retrospective descriptive cross-sectional study was conducted to cover the period between June 2016 to December 2022, to study archived data of all patients previously treated for pulmonary TB admitted with respiratory symptoms. Patients' socio-demographics and clinical information were collected from the patients' hardcopy and electronic files. Clinical characteristics i.e. number of PTB episodes, co-morbidities, respiratory symptoms, body mass index and chest examination findings were recorded. Reports of X-rays and/or CT scans of the chest at the time of admission were obtained from the hospital's electronic software, Clear Canvas. Data entry was done in EpiData version 3.1 and analysis by SPSS version 23.0. The results were expressed as means with SD for continuous variables and as proportions for categorical variables. Chi-square test was used to compare categorical variables. Logistic regression was used to assess the relationship between patients' characteristics and various causes of admission. Variables with a P value of ≤ 0.2 in univariate analysis were included in multivariate model of logistic regression to identify independent factors associated with causes of admission. P value of <0.05 was considered statistically significant. **Results:** A total of 354

participants were studied. The mean age (± SD) was 47(± 16) years. The majority were male232 (65.5%), married or cohabiting 240 (67.8%), attained secondary or higher education 246 (69.5%) and employed formally or informally 184(52%). The most frequent causes of admission were lung fibrosis, accounting for 48.9% of all admissions, bronchiectasis exacerbation (23.4%) and lung tumors (16.1%). Other causes of admission were aspergillosis(10.2%), emphysema (8.8%) and pulmonary TB (5.9%).Factors associated with lung fibrosis were age older than 45 years, aOR(95%CI)=1.61(1.02-2.53), p=0.041, presence of rhonchiaOR(95%CI)= 9.76(2.27-41.91), p=0.002 and fine crackles aOR(95%CI)= 2.75(1.05 7.22), p=0.040.Factors associated with bronchiectasis were anemia, aOR(95%CI)=2.36(1.25 4.48), p=0.008, history of three or more PTB episodes, aOR(95%CI)=4.36(1.13-16.85), p=0.033 and bronchial breath sounds, aOR(95%CI)=8.43(1.78-39.89), p=0.007. Factors associated with lung tumors were working in mine industries/peasants, aOR(95%CI)=2.43(1.07-5.52), p=0.034, smoking, aOR(95%CI)=2.55(1.27-5.12), p=0.008, being diabetic, aOR(95%CI)=3.45(1.24 9.58), p=0.018 and hemoptysis, aOR(95%CI)=3.49(1.53-7.93), p=0.003. **Conclusion:** Lung fibrosis, bronchiectasis exacerbation and lung malignancies were the most prevalent causes of admission. Some patients' characteristics predicted a hospital admission due to certain lung conditions among post PTB patients. Age older than 45 years, fine basal crackles and rhonchi were a common presentation in patients admitted with lung fibrosis. Admissions due to bronchiectasis exacerbation were significantly associated with multiple past PTB treatments, anemia and a presence of bronchial breath sounds on chest examination. Diabetes mellitus, hemoptysis, cigarette smoking or working in mines or agricultural sector predicted lung malignancy in patients admitted with respiratory symptoms. It is recommended that these factors are known to physicians to guide in diagnosis and management.

262. Munroe M. (2024). Acute Myeloid Leukemia at Muhimbili National Hospital: Clinical Features, Laboratory Characteristics and Survival Outcome. Muhimbili University of health and allied sciences.

ABSTRACT

Background: Acute myeloid leukemia is a blood cancer characterized by clonal expansion of immature blast cells in the peripheral blood and bone marrow, resulting in ineffective erythropoiesis and bone marrow failure. Chemotherapy is the mainstay of treatment, with bone marrow transplant reserved for patients with an intermediate risk or a high-risk disease. Nevertheless, the majority of AML patients who receive intensive chemotherapy and attain complete remission eventually relapse. Allogeneic stem cell transplant remains an essential treatment option in patients with good performance status. In the absence of timely treatment, AML has a rapid progression rate. Chemotherapy treatment for AML is available in Tanzania, but not always accessible to all patients. Little is known about the survival outcomes of patients with AML in Tanzania. **Aim of the study:** To determine the clinical features, laboratory characteristics, and survival outcomes of patients with Acute myeloid leukemia treated with different regimens in Tanzania. **Materials and methods:** This was a retrospective cohort analysis that included all patients with a confirmed diagnosis of AML by bone marrow aspiration from March 2018 to December 2023. Data was acquired from patient files and the electronic hospital record system. SPSS version 21 was used for data analysis. Descriptive statistics like percentage and mean were employed to describe the patients' demographic, clinical, and laboratory characteristics. The survival outcome was determined via the Kaplan-Meier method. Cox proportional hazards models were used to analyze survival results for patients with acute myeloid leukemia, identifying predictors of survival and estimating the correlation between each variable and survival outcomes. A p value of **Results:** The prevalence of AML among all acute leukemia cases at MNH was 68% (n =112). Majority of the patients were females (60.7%), uninsured and had de novo AML. The mean age was 47.2 years (SD = 18.5). Most of the patients presented with symptoms of anemia (98.2%) and fever (79.5%). The median survival time was 81 days with a one-year overall survival of 15.2%. There was increased hazard of mortality for patients who resided outside of Dar es vi Salaam (74% (aHR: 1.74, 95% CI: 1.15-2.64, p = 0.008) and those whose management constituted supportive treatment alone (aHR: 0.61, 95% CI: 0.40-0.93, p = 0.022). Conclusions: Majority of the patients diagnosed with AML received palliative care and not standard of care. The survival outcome of AML in

Tanzania is low. Limitations: Due to the limited number of patients on LD cytarabine with venetoclax, we were unable to compare survival outcomes of patients on LD cytarabine with venetoclax and those on LD cytarabine alone. **Recommendations:** Patients should receive intensive chemotherapy which is deemed standard of care. We also consider the need for future prospective studies to be conducted on patients with AML receiving different treatment regimens, strong emphasis should be placed on the need for risk stratifying patients with AML inclusive of counselling patients for the need of molecular studies and the need for recording performance status (ECOG) in patients' files.

263. Mushi, T.T. (2024). Relationship between braf v600e and clinicopathological characteristics of ameloblastoma in Tanzania Muhimbili university of health and Allied Sciences.

ABSTRACT

Background: Ameloblastoma is a benign but locally aggressive tumor that results from deregulation of the odontogenic epithelium. It makes up to 3% of all head and neck tumors and up to 58% of all odontogenic tumors worldwide. It affects a wide age range, with no sex predilection. Patients usually present with swelling, destruction of teeth, and massive tumor masses with facial disfigurement. The treatment of choice for most tumors is surgical resection, which often results in facial deformity and significant morbidity if surgical reconstruction is not done. Due to the challenges and complications associated with surgical management of this neoplasm, renewed interest in the disease's molecular drives, has resulted in the discovery of several driver mutations, including the BRAF V600E mutations. Targeted therapies, such as BRAF V600E inhibitors, are now part of the management of ameloblastoma in some institutions. However, the precise diagnosis of the BRAF V600E mutation is necessary for successful treatment using such drugs. Currently, information on BRAF V600E expression in ameloblastoma is quite limited in Africa, particularly in East Africa and Tanzania. **Objective:** The aim of this study was to establish the relationship between BRAF V600E and the clinicopathological

characteristics of ameloblastoma cases in Tanzania. **Materials and methods:** This was a retrospective descriptive cross-sectional study that involved patients who were attended at Muhimbili National Hospital (MNH) from January 2017 to December 2022. Cases were conveniently selected to include patients whose clinical information was available and whose tissue blocks were accessible with adequate tissue for immunohistochemistry (IHC). Histological slides were reviewed to confirm the diagnosis of ameloblastoma, and then tissue blocks were retrieved from archives where sections were prepared for IHC staining. Tissue slides were analysed for histologic types and subtypes. IHC was done using Mouse anti-BRAF V600E primary antibody (Medaysis, Clone MD47). Patients' records and investigation forms were used to gather their respective demographic data. Descriptive statistics was used to examine the relationship between various variables. Fisher's exact test and Chi square were used accordingly and a $p \leq 0.05$ was considered statistically significant. **Results:** This study involved a total of 51 patients, with 27 females (52.9%) and 24 males (47.1%). The age of patients ranged from 11 to 65 years, with a mean age of 31.14±12.28 years. The mandible was the commonest affected site 48(94.1%). The conventional type accounted for 41(80.4%) of all cases, with the follicular subtype being the commonest 20(48.8%). BRAF V600E expression was observed in 39(76.47%) of all cases. The conventional ameloblastoma had significant tendency of expressing BRAF V600E than the unicystic variant ($p=0.042$). Even though all four recurrent tumors were BRAF V600E positive, while none of the BRAF V600E negative tumors with known recurrence status experienced a recurrence, the difference was not statistically significant. There was no significant difference observed on BRAF V600E expression across sex, age groups, anatomical location or histological subtypes. **Conclusion:** Despite the relatively small sample size, this study has successfully shown that most ameloblastoma patients in Tanzania, particularly those with the conventional type, may benefit from existing anti-BRAF inhibitors. Furthermore, though all 4 recurrent tumors were BRAF V600E positive, the recurrence does not appear to be due to BRAF V600E positivity. It is recommended that large-scale studies be carried out to further explore the biological implications of BRAF V600E of ameloblastoma in our setting.

264. Mussa, S.S. (2024). Evaluation of perioperative pain management practice and associated factors among health care providers at Mnazi Mmoja hospital in Zanzibar Tanzania. Muhimbili University of Health and Allied Sciences.

ABSTRACT

Background: Optimum pain control in the perioperative period is crucial to ensure pain free state for patients undergoing surgical procedures where poorly controlled postoperative pain can lead to extended hospital stays or even life-threatening complications, including death. Healthcare providers play a crucial role in ensuring optimal pain control, so as to improve patient outcome in the perioperative period. However, multiple evidence globally has shown that the level of pain management practice among health professionals remains suboptimal across various settings (1)(2)(3). Various factor influences their level of practice so as to ensure effective pain control i.e. knowledge level, attitude, familiarity with pain assessment tools, availability of guidelines, and participation in training. It is imperative to address these factors to guarantee a pain-free state for patients undergoing surgical procedures Objective**:** To evaluate perioperative pain management practices and associated factors among health care providers at Mnazi Mmoja Hospital-Zanzibar Methodology**:** An analytical cross-sectional hospital-based research study was conducted at MMH-Zanzibar. The participants were healthcare providers working in the surgical units of MMH. The participants were selected through a consecutive sampling method. Data collection was done using a structured questionnaire that was adapted from previous studies. Data analysis was carried out using SPSS version 23. Statistical significance was determined by Pearson chi square test and logistic regression was used for associations between the dependent and independent variable. P values <0.05 and a 95% confidence interval were considered to be statistically significant. Ethical approval from Muhimbili University IRB, Zanzibar health research institute (ZAHRI) and the Research and publication department of MMH was requested. **Results:** Among the 114 health care providers who were included in the study, 98 (86.0%) exhibited poor perioperative pain management practices. An overwhelming majority of healthcare providers (93.0%) were not using the

validated pain assessment tools in the assessment of pain. Knowledge (AOR (95% CI) = 32.795 (6.496-165.574)), Attitude (AOR (95% CI) = 5.014 (1.125-22.358)) and familiarity with pain assessment (AOR (95% CI) =5.264(1.101-25.168)). were significantly associated with good levels of perioperative pain management practices. **Conclusion and recommendation:** The study revealed a poor overall level of perioperative pain management practices among healthcare providers in the study area, with only 14% exhibiting good practices. Notably, knowledge, attitude, and familiarity with pain assessment tools emerged as significant factors associated with good practice levels. Based on these findings, it is imperative to enhance the level of practice among healthcare providers. This can be achieved by empowering their knowledge through on-site or off-site training and continuous medical education (CME) focused on the assessment and management of perioperative pain. Additionally, ensuring the availability of pain assessment tools and guidelines in healthcare facilities is crucial to support effective pain management practices. By implementing these recommendations, healthcare providers can improve the quality of perioperative pain management, ultimately enhancing patient outcomes.

265. Mutalemwa, K. (2024). Predictors of survival among hypertensive patients attending outpatient clinics within rural districts of Iringa region. Muhimbili University of Health and Allied Sciences.

ABSTRACT

Background: Hypertension in Tanzania accounts for 25.9% of cardiovascular disease risk factors despite the availability of specialized clinics, even in rural areas, to manage the disease and associated complications. Thus, evaluating outcomes of clinical care provided for a rural hypertensive cohort may give insight into how well clinical care promotes survival with hypertension without debilitating effects. **Objective**: To describe the three-year survival outcomes of hypertensive patients attending a Non-communicable Disease clinic in rural Iringa from 2020-2023. **Methodology:** This study analyzed a registry-based retrospective cohort identifying clinical outcomes of diagnosed adult

hypertensive patients within rural health facilities in the Iringa district council. The study population was all hypertensive patients on follow-up visits in 9 health centres and district hospitals in the Iringa district council. Using epi-info, the data was analyzed, survival predictors were estimated using the Kaplan-Meier estimator, and the Log-rank test was used for comparisons. The Cox proportional hazards model was used to identify independent effects of the predictors of survival. **Results:** Between 2020 and 2023, the clinics enrolled 1194 participants (76% (n=910) were women) for hypertensive-related disorders. The mean age of patients was 61±5.4 SD years (IQR 18 -89 years); of these, 83.6% (n=998) were hypertensive-only patients, and 16.4% (n=196) were both diabetic-hypertensive. Out of 718 returning patients, 31.3 % (n=225): (95%CI: 28 - 35) patients reached optimum BP in the first six months, and 11.5% (n=21) (95% CI: 17 – 36) reached BP at thirty-six months respectively. Significant predictors of survival with optimum blood pressure control were living closer to the district hospital, those who had a hypertensive crisis at the initial assessment, and having fewer follow-up visits. **Conclusion**: The findings underscore the need to provide primary health care services closer to the community residential areas within rural settings. In this community, the patients with a severe hypertensive crisis were more likely responsive to treatment compared to others, and compliance to clinical attendance decreased with time, irrespective of the availability of care.

266. Mutasingwa, H. (2024). A cost analysis of igra-based community active case finding for Tuberculosis among adolescents in Urban settings. Muhimbili university of health and Allied Sciences.

ABSTRACT

Background: The increasing prevalence of TB among adolescents and the unique challenges posed by urban environments, there is a critical need to evaluate the economic implications of implementing targeted screening strategies. This study aims at exploring the costs associated with Interferon-Gamma Release Assay (IGRA)-based community active case finding, considering diagnostic tests, personnel, follow-up care, and other

relevant factors. The findings of this study have the potential to inform public health policies and interventions aimed at addressing TB in this vulnerable population. By assessing the economic impact of IGRA-based community active case finding, the research contributes to the optimization of resource allocation, development of cost-effective screening programs, and the enhancement of TB control strategies in urban environments. Ultimately, the study seeks to advance our knowledge on the economic dimensions of TB control and promote evidence-based decision-making for public health initiatives targeted at adolescents. **Methods and materials:** A cross-sectional descriptive study design was employed to determine the cost of actively finding TB cases among adolescents using the IGRA. Cost data was collected from provider perspective (in TZS) covering a period of 6 months. Excel based questionnaire was used to collect cost data related to the implementation of the project. In addition, face to face interviews was conducted to household heads of adolescents who were prevalent of IGRA-positive. The aim was to assess socio-economic and demographic factors that was associated with TB case identification using IGRA. After data cleaning, cost analysis was conducted using Microsoft Excel. All other quantitative data collected from the study participants were analyzed using STATA version 16. Multivariate analysis was used to determine the socio-economic and demographic characteristics associated with IGRA-positive results among adolescents. **Results:** In this study, a total of 425 study participants were interviewed for socio-economic status when being screened for tuberculosis infections using IGRA, whereby 225 (52.94%) were females, with the mean age of 14 years. Majority of participants belonged to households with low socio-economic status. Majority of participants 143(40.06%) belonged to households with low socio-economic status. In doing cost analysis using 600 adolescents screened for Tuberculosis infections using IGRA, the total capital cost associated with TB case detection using IGRA- was 4,953,936 Tshs, with equipment accounting for a large share, 65.7% of the total capital cost. Furthermore, diagnostic services cost more (2,934,388 Tshs) than screening services. The total recurrent cost associated with TB case detection using IGRA was 258,769,757 Tshs, with personnel accounting for a large share of the total recurrent cost. The unit cost of screening a TB case through IGRA-Based community active case finding

in urban settings was Tshs. 439,539. Of all the cost inputs, Personnel and contracted services accounted for a large share of the overall cost of detecting a tuberculosis case, that are, 69% and 18%, respectively. In a Univariate analysis, only sex was significantly associated with IGRA-positive results. In a multivariate analysis, sex (aOR=3.69; 95% CI; 1.62 – 8.42; P<0.002) and parent status/father not alive (aOR=5.10; 95% CI; 1.28 – 20.30; P<0.021) were significantly associated with positive results (IGRA positive). **Conclusion:** The findings of this study revealed that IGRA-based community active case finding is an effective tool for TB case detection, particularly in adolescent populations. Despite high vaccination rates, the prevalence of IGRA-positive cases underscores the need for ongoing TB surveillance and targeted interventions. The cost analysis reveals that while the initial investment in IGRA-based community active case finding is substantial, the comprehensive nature of the approach justifies the costs. Understanding the primary cost drivers and socio-economic factors influencing TB detection can inform more efficient and equitable TB control strategies

267. Muyenge, P.N. (2024). Choice of vascular access types for hemodialysis at the Muhimbili National hospital in Dar es salaam: pattern, associated factors, and impact on quality of life. Muhimbili University of Health and Allied Sciences.

ABSTRACT

Background: Hemodialysis (HD) is the most prevalent form of Kidney Replacement Therapy (KRT) for patients with advanced chronic kidney disease (CKD). To make it possible, temporary or permanent vascular access has to be employed. Although there are set recommendations, the choice and eventual deployment of a chosen vascular access by healthcare providers may be affected by various factors, and this will have an impact on the quality of life of patients with advanced CKD on dialysis. With the recent increase in the availability of HD services in Tanzania, delineating the pattern as well as factors that determine the choice of vascular access type and their impact on quality of life (QoL) is important to inform appropriate decision-making. **Objective:** To determine the pattern, patients' socio-demographic, and clinical factors that affect the choice of vascular access

types by health care providers, and the impact of their choices on the quality of life among patients undergoing hemodialysis at the Muhimbili National Hospital (MNH) **Methodology:** A hospital-based cross-sectional study was conducted from September 2023 to February 2024 at Muhimbili National Hospital, Dar es Salaam. Patients were recruited from the HD unit and Nephrology wards. All eligible and consenting patients (age≥14 years) undergoing HD for more than 3 months were consecutively enrolled until the sample size of 205 was reached. For each patient, data on socio-demographic, clinical, and laboratory characteristics were collected. Vascular access was examined and the findings were recorded. The impact of the choice of vascular access types by healthcare workers on the QoL was assessed by associating patient satisfaction using the VAQ with the KDQOL. Descriptive statistics were appropriately reported as a mean ± SD or as a proportion. Factors associated with QoL were determined using multinomial logistic regression analysis. A p-value <0.05 was considered to be statistically significant and was also used to identify independent predictors of the VAQ score. Comparisons across nominal factors were performed using the Kruskal-Wallis test for VAQ median scores between the vascular access groups. A logistic regression model was used to compare VAQ and QoL scores, and a multivariate analysis was used to evaluate their association. **Results:** A total of 205 patients undergoing hemodialysis were recruited into the study, of whom 77.1 % were male. The overall mean age was 51.9±13.5 years. The most common cause of advanced CKD was hypertension (93.43%), followed by diabetes kidney disease (35.6%). At the start of HD non-tunneled CVC (95%) was the most often used vascular access followed by a shift to AVF (39%) and tunneled CVC (34%) over the course of HD. Factors influencing the choice of vascular access by health care providers were the level of education and the duration of HD. Patients with AVF had statistically significantly lower VAQ scores (better satisfaction) which correlated with higher KDQOL scores (good QoL). Independent predictors of good QoL among participants were found to be; the cause of ESRD, level of education, and duration of dialysis from the onset of starting HD. **Conclusion:** The pattern of choice of vascular access types by health care providers changed over time, but ultimately settled to AVF and tunneled CVC being the commonest types. Overall, AVF was uncommonly used as the preferred

vascular access type. Patient's level of education and duration of HD were the independent predictors that influenced healthcare provider's selection of vascular access type. The overall QoL among patients undergoing HD was good and was not influenced by the vascular access type. **Recommendation:** Healthcare workers should proactively refer pati**ents with advanced CKD to a** Nephrologist for decisions on the choice of vascular access type in line with KDOQI recommendations. Adherence to established guidelines should also consider individual patients' characteristics when selecting vascular access options.

268. Mwaikenda, M.D. (2024). The influence of Direct Health Facility Financing on the availability of essential medicine in Ulanga district council. Muhimbili University of Health and Allied Sciences.

ABSTRACT

Background: Shortage of essential medicine in the public health facility mainly primary facilities is a major issue in Tanzania. Despite increasing of numerous reform attempts and initiatives over the last decade, surveys conducted reports that shortage of medicine still common. **Objective of the study:** To explore how Direct health facility financing influences the availability of essential medicines in health facilities. **Methodology**: A case exploratory study design was conducted from 15 participants who were purposefully selected, from the five facilities that implemented the DHFF in Ulanga district, In-depth interviews technique was used to collect primary data and documental review for secondary data on Budgetary themes, Funds allocations and Ordering process. deductive thematic analysis approach was employed to analyze data using NVIVO version 12. **Results**: Inadequate funds to the facilities hampered the medicine stock-outs within the facilities, the ordering cycle through the prime vendor system promotes the adequate supply of medicine within the facility due to the medicine stock out in the medical store department store and the quarterly disbursement of funds contributed to the delay of availability of medicines in the facilities due to long waiting time. **Conclusion**; The insufficient funds from DHFF, prime vendor system of supply and ordering chain as well

as disbursement timeline of funds were major issues contributing to the essential medicine stock out in facilities. Providing funds similarly to the budgetary need of the facilities, ensuring all time availability of medicine in medical store department store and providing alternative prime vendors rather than medical store department and One-month disbursement of funds to reduce long waiting time of funds to reduce stock outs in facilities.

269. Mwakasumi, E.A. (2024). Magnitude of gestational diabetes mellitus and associated factors among pregnant women living with HIV in Dar es Salaam region, Tanzania. Muhimbili University of Health and Allied sciences.

ABSTRACT

Background: Evidence suggests a link between non-communicable diseases (NCDs) and HIV. People living with HIV(PLHIV) are at higher risk of metabolic syndrome including Gestational Diabetes Mellitus (GDM). Studies showing a magnitude of GDM in PLHIV are limited in Tanzania. **Objective:** The study was set to determine the magnitude of GDM among pregnant women living with HIV in Dar es Salaam, Tanzania and to find out its associated factors **Materials and Methods:** A cross-sectional study was conducted in Dar es salaam's three regional referral hospitals and a national hospital. Participants were pregnant women living with HIV at their 24th to 28th gestation age. Questionnaire was used to collect data and other anthropometric measurements were taken using various tools. GDM was the outcome variable, also analysis was conducted using both descriptive and logistic regression methods. **Results:** GDM prevalent was 5.6% among 426 study participants. Women with overweight were almost ten times more likely of having GDM compared to women with normal nutritional status (AOR:9.81 95% CI 2.64-36.40, P=0.001). Women on their third pregnancy were five times more at risk of having GDM as compared to primigravida (AOR:5.66,95% CI 1.11-28.80 p=0.037). Women with high level of physical activities were 93% less likely to have GDM compared to those with low level of physical activities (AOR:0.07,95% CI 0.01-0.77 p=0.031). Those working in sales and services were 95% less likely to have GDM as

compared to those working as professionals (AOR:0.53, 95% CI 0.01-0.25 p<0.001). Manual labour (AOR:0.04,95% CI 0.01-0.22p=0.001), and other jobs (AOR:0.06,95% CI 0.01-0.34 p=0.002) were also significant risk factors for GDM. **Conclusion:** The prevalence of GDM among respondents was found to be 5.6%. Overweight, multi-parity, level of physical activities as well as nature of work were found to be associated with.

270. Mwakasungura, F.W. (2024). Process evaluation on adherence to the national nutritional guideline for people living with HIV care and treatment centers, Dar es salaam, Tanzania. Muhimbili university of health and Allied Sciences.

ABSTRACT

Background: The interplay between HIV and malnutrition presents a critical public health concern, particularly in sub-Saharan Africa where the burdens are significantly high. In Tanzania, the HIV prevalence stands at 4.9% among adults, coupled with a noticeable rate of malnutrition among those living with HIV. Despite the availability of nutritional guidelines for People Living with HIV (PLHIV), there is a notable gap in data and evidence on adherence to these guidelines in Care and Treatment Centers (CTCs). This study aims to evaluate the adherence to the National Guidelines for Nutrition Care and Support of PLHIV in CTC clinics in Dar es Salaam, Tanzania. **Objective:** To evaluate adherence to the National Guidelines for Nutrition Care and Support of People living with HIV attending in CTC clinics in Dar es Salaam and identifying factors influencing it. **Methods:** An explanatory sequential mixed method design was used, encompassing PLHIV, health facility administrators, and healthcare providers in CTC Clinics in Dar es Salaam. Data collection was an observational checklist, structured questionnaire interview and in-depth interview to assess the level of adherence to the guideline, evaluate the factors influencing adherence and identifying the facilitators and challenges respectively. Descriptive and inferential statistical analyses was done to summarize data and explore the associations between adherence levels and multiple determinants. Content analysis to identify codes and patterns was employed in qualitative analysis**. Results:** Out of 485 approached participants, 478 were included. The study

included 25 CTCs, predominantly dispensaries 15(60%), with an average client volume of 2322. Staff allocation met minimum requirements in 19(76%) clinics, yet 16(64%) clinics lacked adequately trained staff. Supervision and feedback were deficient in 15(60%) facilities, despite widespread availability of 24(96%) weighing scales and 23(92%) stadiometers, while 17(68%) clinics lacked MUAC tapes. Only 93 out of 478 PLHIV (19.46%) adhered fully to nutritional**.** Guidelines. Anthropometric assessments were universal 478(100%), but only 5(1%) participants received micronutrient supplements. Other areas, such as clinical nutritional assessments 325(68%) and nutrition counseling 244(51%), showed varied adherence rates across facility types. Multivariate analysis identified higher education (AOR=5.08, p=0.019) and attendance at referral hospitals (AOR=8.23, p=0.032) as significantly associated with guideline adherence. Conversely, nurse attendance (AOR=0.34, p=0.038), adequate staffing (AOR=0.31, p=0.010), and urban residence (AOR=0.47, p=0.009) correlated negatively. Facilitators included consistent training, supportive leadership promoting guideline adherence, and patient education sessions enhancing nutritional understanding. Barriers comprised financial constraints affecting supplement distribution, high staff turnover disrupting continuity of care, and poor documentation practices impeding effective monitoring. **Conclusion:** The study reveals significant gaps in adherence to national nutritional guidelines among people living with HIV in Dar es Salaam. Despite robust follow-up care and anthropometric assessments, the provision of essential micronutrient supplements is severely lacking. Variations in adherence across healthcare facilities suggest that resource distribution, staff training, and facility capabilities are critical factors. Additionally, socio-demographic elements such as education levels and geographical location further influence adherence outcomes, highlighting complex challenges in managing patient health. **Recommendation:** Continuous training for healthcare providers ensures adherence to nutritional guidelines. Strengthened resource allocation across health facilities improves adherence levels. Patient education integrated into routine care emphasizes nutrition's role. Addressing systemic barriers ensures consistent resource availability. Improved data quality enhances patient management.

271. Mwakichako, R.W. (2024). Adherence, bleeding outcomes and safety profile of emicizumab prophylaxis among hemophilia a patient attending Muhimbili national hospital, Dar es-salaam, Tanzania. Muhimbili University of Health and Allied Sciences.

ABSTRACT

Background: Prophylaxis is the global standard of care for people with Haemophilia (PWH). Despite being recommended, only a handful of countries in Sub-Saharan Africa have embraced prophylaxis due to limited access to factor concentrates and an excessive dependence on donor assistance. Tanzania initiated the first prophylaxis program, supported by the World Federation of Haemophilia (WFH) by donating Emicizumab to a select group of patients with Haemophilia A. Emicizumab is a monoclonal antibody that restores haemostasis by cross-linking FIXa and X, resulting in thrombin production. Although this agent has been available for the past three years, no studies have examined adherence patterns, bleeding outcomes, and its safety profile in Tanzania. Aim of the study: To evaluate adherence patterns, bleeding outcomes, and the safety profile of Emicizumab prophylaxis among HA patients attending MNH. **Methodology:** We undertook a cross-sectional analysis involving HA patients receiving Emicizumab prophylaxis, gathering information on their adherence patterns, self-reported adverse events, and bleeding results, which included an annual bleeding rate (ABR) and the resolution of target joints. Factors linked to breakthrough bleeding were assessed using a comprehensive poison method. Results: Among the 55 individuals who participated in the study, the median age was 8 years, and half of the patients (50%) had severe haemophilia. The median ABR for spontaneous bleeding was 8 before treatment and decreased to zero after 12 months of prophylaxis. During the study period, a majority of the patients (78%) exhibited adherence. Bleeding was noted in 63% of the patients, predominantly (61%) due to trauma. Of the 19 (34.6%) patients with target joints, 79% saw resolution during Emicizumab prophylaxis. Age was the sole factor linked to breakthrough bleeding, with those over 18 years being the most at risk. Regarding safety, only 5% of the patients reported adverse events, with injection site reactions being the

most frequent. **Conclusions:** The majority of patients adhered to Emicizumab prophylaxis. Omalizumab prophylaxis proves effective in averting spontaneous bleeding and exhibits a favorable safety profile. Older age was the only significant factor associated with spontaneous bleeding during prophylaxis. Ongoing monitoring and pharmacovigilance are crucial for evaluating long-term outcomes and enhancing patient management strategies.

272. Mwakifuna, P. (2024). Emergency management strategies and predictors of outcome among adult patients presenting with intestinal obstruction at the emergency department of Muhimbili national Hospital. Muhimbili University of Health and Allied Sciences.

ABSTRACT

Background: In Africa, acute intestinal obstruction accounts for a great proportion of morbidity and mortality. Tanzania is one of the countries where intestinal obstruction is a common presentation to the emergency department. This study aimed to describe clinical profile, emergency management strategies and determine the predictors of outcome among adult patients with intestinal obstruction presenting to emergency department of Muhimbili National Hospital. **Methodology:** A hospital based retrospective cohort study was conducted. Data were collected from hospital medical records and adult (18years and older) patients with intestinal obstruction seen at the ED-MNH from September 2015 to September 2021 recruited. Patients demographic, initial vital signs, point of care investigations done, time to presentation, time to surgical intervention, and 24hour ED mortality were collected. SPSS version 16.0 for data processing and analysis, the chi-square analysis were used to analyze the association of patient variables with the 24 hour mortality. Statistical significance was based on confidence interval (CI) of 95 % at a P-value of < 0.05. **Results;** we enrolled 992 patients who presented with intestinal obstruction. The majority (64.7%) were aged 18 to 45 years. The males to female ratio were 2 to 1, and 25.7% had comorbidities. 91.8% presented to ED 24 hours after onset of symptoms. Most patients presented with abdominal pain (93.6%), constipation (91.3%),

vomiting (86.7%), abdominal distension (91.1%) and tachypnoea (98.2%). Among the 35.2% were found to have anemia, hyponatremia (45.6%) and hypokalemia in (29.5%). The commonest ED interventions were intravenous fluids (99.4%), intravenous antibiotics (95.8%), analgesics (90.9%), NGT decompression (87.3%), and antiemetics (76.4%). The 24hours mortality was 5.5% (CI 40.45, 44.8). Age more than 60years and absence of bradypnea with P-value of 0.001 and <0.001 respectively associated with mortality. **Conclusion:** Intestinal obstruction constitutes a major surgical health problem in our ED and presents management challenges to healthcare provider requiring immediate resuscitation with intravenous fluid, antibiotics, analgesics, antiemetics, corrections of electrolyte derangement, availability of blood transfusion and early surgical consultation. Older patient ages >60, patients presenting with bradypnoea, and those with anemia, have a high risk of mortality.

273. Mwakimako, H.J. (2024). Quality Of Life Among Adult Ostomates at Muhimbili National Hospital. Muhimbili University of Health and Allied Sciences.

ABSTRACT

Background: Intestinal stomas are an integral component of surgery as a means of diverting the bowel, either permanently or temporarily. Despite its significance, it is associated with adverse effects on the quality of life among ostomates. This negative impact has been argued to be cultural and context-dependent. Hence, it is crucial to comprehend the impact of intestinal stomas on the quality of life of ostomates in Tanzania and to devise interventions that mitigate negative effects and promote the well-being of patients. Aim: To study the clinical demography and its influence on stoma-specific quality of life among ostomates attending MNH. **Methods:** An analytical hospital-based cross-sectional study was conducted at MNH involving adult ostomates with intestinal stomas for at least 1 month. A stoma-QoL-specific tool, validated through Swahili translation was employed. Participants were recruited from the ongoing ExLap study, theatre logs, and surgical outpatient department. The Chi-square test and logistic regression examined associations between clinical demographics and QoL scores.

Additionally, Anova analysis was utilized to explore the relationships between clinical demography and various domains of stoma QoL. **Results:** This study involved 126 stoma patients with a male to female ratio of 1.4:1 and the majority were <65years of age in 80.2%. Malignant conditions were diagnosed in 76.2% with elective procedures being more common at 63.5%. The median stoma duration was 6.6 months, mostly temporary colostomies in 70.6%, with 71.4% receiving stoma care counselling? The median stoma-specific quality of life score was 50 (IQR 44-59) with majority, 66%, reporting suboptimal scores. Factors found to significantly influence QoL include: Age ≥ 65 years (AOR = 3.24, p = 0.009), and having received stoma care counselling (AOR = 3.23, p = 0.022). Elderly patients had higher self-esteem (14.04 ± 3.35, p = 0.001), having good family relations (26.76 ± 5.14, p= 0.028) influenced the other quality domains. Adjusting to stoma was significantly better among permanent ostomates (12.43 ± 3.09, p = 0.026). **Conclusion:** Majority of patients with stoma at Muhimbili National Hospital experience a suboptimal quality of life. Patients with advanced age and having stoma care counselling had a higher quality of life among ostomates. Patients with temporary stomas reported difficulties in managing their ostomy devices. More efforts such as pre- and post-operative comprehensive stoma therapy services should be introduced to improve quality of life among ostomates in general.

274. Mwampashi, B.O. (2024). Assessment of mechanical ventilation practices and its associated factors among intensive care nurses at Muhimbili tertiary teaching hospitals. Muhimbili University of Health and Allied Sciences.

ABSTRACT

Background: Although mechanical ventilation is a lifesaving intervention, if not properly done, it can adversely affect patients, leading to significant morbidity and mortality. Nurses caring for critically ill patients must demonstrate good knowledge and practice on mechanical ventilation to prevent ventilator-related complications. **Aim of the study:** To assess mechanical ventilation practices and its associated factors among intensive care nurses at Muhimbili Tertiary Teaching Hospitals. **Methodology:** This was

a hospital-based cross-sectional study conducted at Muhimbili National Hospital and Muhimbili Orthopedic Institute- Intensive Care Units. The study included 81 nurses who were directly involved in the care of mechanically ventilated patients, obtained through a consecutive sampling technique. An Adapted Questionnaire and Observational Checklist were used to capture the data. A score of ≥ 75% on the scored items was regarded as adequate practices from the observational checklist and good knowledge from the self-administered questionnaire. Data were processed and analyzed using Statistical Package for Social Sciences (SPSS), version 26. Proportions were used to summarize descriptive statistics, and the Chi-square test ($p<0.05$) was used to establish statistical significance. **Results:** Only 21% of nurses demonstrated good mechanical ventilation practices, and four nurses (4.9%) had good knowledge. There was a statistically significant association between mechanical ventilation practices and continuing medical education (CME), good knowledge, increasing level of education, and utilization of mechanical ventilation management guidelines ($p <0.01$). **Conclusion and recommendations:** The overall mechanical ventilation practices of intensive care nurses is unsatisfactory, and there is a significant knowledge gap. Therefore, offering opportunities for post-graduate training in critical care nursing, emphasizing nurses' participation in CME programs, and ensuring the availability and utilization of operational guidelines are crucial in improving the quality of mechanical ventilation practice.

275. Mwanadyogo, J.I. (2024). Economic burden of mental illness among patients with mental illness at Mirembe national mental health hospital in Dodoma: A patient perspective. Muhimbili University of Health and Allied Sciences.

ABSTRACT

Background: Mental illness imposes a substantial economic burden on patients and their families. This study aims to estimate the economic burden mental illness among patients with Mental illness in Dodoma, Tanzania, focusing on both direct and indirect costs, also exploring cost coping mechanisms employed by patients. **Methods:** A cross-sectional study was conducted with 236 patients receiving mental health care at Mirembe National

Mental Health Hospital. Data on direct medical and non-medical costs (including costs of drugs, hospitalization, transportation, and meals) and indirect costs (such as productivity losses for patients and caregivers) were collected. The study also examined cost coping mechanisms like borrowing money, receiving support from relatives or friends, selling assets, and skipping or stopping treatment. Descriptive statistics and sensitivity analyses were performed using Stata software. **Results:** The mean total direct cost incurred by patients was 757,103.41 TSH, (302.84 $), primarily driven by medication costs 663,183.10TSH (265.3$). The mean total indirect cost was 877,342.60 TSH (350.9$), with significant contributions from patient productivity loss 667,073.20 TSH(266.8 $). Common coping mechanisms included borrowing money (74.58%) and receiving support from relatives or friends (96.61%). A considerable number of patients (34.75%) reported skipping or stopping treatment due to financial constraints. **Conclusions:** The economic burden of mental illness on patients in Tanzania is substantial, encompassing significant direct and indirect costs. Patients rely heavily on informal coping strategies, highlighting the need for formal financial support systems. **Recommendations:** The Ministry of Health in Tanzania, should expand public health insurance schemes to cover essential mental health services and direct costs, reducing out-of-pocket expenditures and ensuring patients can afford necessary treatments. Also, should develop policies and interventions that consider both direct and indirect costs and their broader economic vi impacts, such as improving insurance coverage, productivity support, and financial assistance programs. **Keywords:** Economic burden, mental illness, direct costs, indirect costs, coping mechanisms.

276. Mwandu, D.P. (2024). Efficacy of disinfectants against multi-drug-resistant bacteria isolated from clinical samples at Muhimbili National Hospital, Dar es salaam, Tanzania. Muhimbili University of Health and Allied Sciences.

ABSTRACT

Background: Increased multi-drug resistant (MDR) bacterial infections have been associated with increased hospital care costs and mortality due to Health Care Associated

Infections (HCAIs). This due fact that, bacteria resistant to disinfectants have also been reported and are on the rise. Disinfectants are prerequisites for infection control and prevention in healthcare settings. Increased bacteria resistant to antimicrobial agents, including disinfectants, warrants ongoing monitoring efficacy of routinely used disinfectants in hospitals settings. However, there is a paucity of information on the efficacy of routinely used disinfectants, especially in developing countries, which reflects the need for conducting this study. **Objective:** To evaluate the efficacy of disinfectants against multidrug-resistant bacteria isolated from clinical samples at Muhimbili National Hospital. Materials and **Methods:** A laboratory-based experiment was conducted to assess the efficacy of disinfectants by using dilution test methods and the quantitative suspension test methods. The Quaternary ammonium compound (QACs), povidone iodine, and sodium hypochlorite (NaOCl) at undiluted and ready to use concentration were collected and tested against four clinical isolates from blood sample and two quality control strains: Methicillin-resistant *Staphylococcus aureus* (MRSA), extended-spectrum beta-lactamase-producing *Escherichia coli* (ESBL-*E.coli)*, carbapenem-resistant *Acinetobacter baumannii (CR-A. baumannii)*, and carbapenemase producer *Klebsiella pneumoniae (*CPKP*)*, and reference(quality control) strains (*Escherichia coli* ATCC 35918 and *Staphylococcus aureus* ATCC 25923*)*. **Results:** All tested bacteria were significantly killed with >99.999% reduction rate at contact exposure of 10 minutes by all selected disinfectants. The 1% QACs killed all tested bacteria at five minutes of exposure, however only gram-positive bacteria were rapid killed after one minute. The 0.5% NaOCl was not efficacious at one minute to all tested bacteria, furthermore at 5 minutes, was significantly only for E. *coli* ATCC 35918 and CRKP. Exposure of 10% povidone iodine for 1 and 5 minutes did not significantly reduced MRSA and carbapenem-resistant *Acinetobacter baumannii*. For QACs, the MICs of both ATCC control strains and MDR bacteria were ranged from 3,125 to 6,250 mg/L and produced the same MBCs of 6250 mg/L. The MICs of MRSA and ESBL-*Escherichia coli* for povidone iodine were twice higher than their reference, and its MBCs was fourfold higher. The MICs of MRSA for NaOCl was four times higher than ATCC-*S. aureus* 25923 while its MBCs was twice higher. Generally, MDR bacteria shown higher

disinfectant tolerance than their corresponding ATCC bacteria strains. By comparison, QACs was highly efficacy than other disinfectants. **Conclusions:** This study found that, for all tested disinfectants the minimum contact exposure time to bacteria for 10 minutes is required for complete elimination of bacteria. However, the QAC was efficacy at 5 minutes contact time. Therefore, adherence to contact time is critical when disinfection is performed in infection prevention and control.

277. Mwanga, N.H. (2024) Fertility preference among refugees and native women of reproductive age in Kigoma region, Tanzania. A comparative study. Muhimbili University of Health and Allied Sciences.

ABSTRACT

Background: The displacement of people can impact fertility preferences, leading to either an increase or decrease in the desire for children. This can be influenced by factors such as the desire to replace lost family members or limited resources. The higher desired family size in the Kigoma region compared to the national level or surrounding regions underscores the need to study fertility differences between immigrant and native populations. **Objective**: This study aimed to determine and compare the fertility preferences among refugee and native women of reproductive age in the Kigoma Region, Tanzania. **Methodology:** The study was cross-sectional analytical and applied a quantitative approach. Stratified sampling was used to select participants. Data were collected through a structured interview form. The outcome variable was the desired number of children used as a proxy for fertility preference. Data analysis was performed using SPSS version 25. Categorical variables were summarized using percentage and continuous data as mean and standard deviation. Linear regression analysis was used to examine the association between the desired number of children and selected independent variables. The F-test was performed to assess the strength of the association. The significance level was set at $p<0.05$. Ethical clearance and informed consent were obtained before data collection. **Result**: The study included 401 natives and 403 refugees. The mean age of participants was 28.2 (SD = 7.4) years and 26.8(SD=7) for natives and

refugees, respectively, ranging from 16 to 46 years. While 172 (42.6%) of the refugees had no formal education, 262 (65.3%) of the native women had at least primary education. Family planning use was significantly higher among natives 326 (81.3%) as compared to refugees 235 (58.3%) ($\chi 2=50.349$; $p<0.001$). The median desired family size was significantly higher among refugees than among natives; eight than five respectively, ($p<0.01$). For native women, the number of living children was significantly associated with desired family size ($p<0.001$). For refugee women, none of the individual-level factors were significantly associated with the desired family size. Health-related factors like the use of family planning and fear of side effects were significant for natives but not for refugees. Facility-related factors such as distance to the nearest health facility showed a weak but significant negative association with fertility desire among both groups**. Conclusion**: Refugee women of reproductive age have elevated family size desires than their counterparts. Family planning users among refugees are significantly lower. Factors associated with desired family size among natives include the number of living children, distance to health facilities and fear of side effects when using family planning among refugees. The study emphasizes the necessity for further research in the Kigoma region to gain a deeper understanding, especially of the cultural and socioeconomic factors associated with reproductive health choices.

278. Mwanshuli, S.E. (2024). Dental Caries Risk Profile and Associated Socio-Demographic Characteristics Among Primary School Children in Dar Es Salaam. Muhimbili University of Health and Allied Sciences.

ABSTRACT

Background: Globally, children are at high risk of developing dental caries, yet data on caries risk profile and socio-demographic associations among Tanzanian children are limited. This cross-sectional study aimed to assess the caries risk profile and related sociodemographic characteristics among primary school children in Dar es Salaam, Tanzania. **Materials & Methods:** The American Academy of Pediatric Dentistry (AAPD) caries risk assessment tool was used to assess 9- to 11-years old children from 8

primary schools. Data were gathered through questionnaires and oral clinical exams. The questionnaires enquired on socio-demographics, oral health behaviors and knowledge about dental caries. Oral clinical examination assessed dental caries status. Data entry and analysis was done usings PSS version 26.0, focusing on frequencies, proportions, and association between caries risk indicators and socio-demographic characteristics. Chi-square test was used to determine association between variables. The statistical significance level was set at $p < 0.05$**. Results:** The study involved 348 child-caretaker pairs (192 girls, 156 boys). Findings revealed that majority of the children (76.4%) were in a high caries risk profile. Fluoridated toothpaste use (37.1%) was a common protective factor. Non-cavitated caries lesions (31.6%) and frequent snacking (53.4%) were prominent caries risk indicators. Age significantly influenced caries risk, with older children exhibiting higher rates. Socioeconomic status was a crucial determinant, with children from lower-income families showing higher caries risk. Children with less-educated parents were more susceptible to dental caries. **Conclusion:** Most examined primary school children in Dar es Salaam showed a high caries risk, with socio-demographic characteristics particularly age, socioeconomic status, and parental education playing a significant role.

279. Mwanyika, V. (2024). Factors associated with cryptococcal meningitis among people living with HIV infection in the Sumbawanga municipal council, Rukwa, Tanzania. Muhimbili University of Health and Allied Sciences.

ABSTRACT

Background: Despite the significant rate of mortality and morbidity caused by Cryptococcal meningitis among people living with HIV (PLHIV) in Tanzania. There are limited findings on the disease burden and associated factors among PLHIV. Understanding factors associated with cryptococcal meningitis such as immunological factors, knowledge, attitude, and perception among PLHIV is crucial for disease prevention and management strategies. This study assessed factors associated with cryptococcal meningitis among PLHIV in Sumbawanga Municipal Council where

there is a high prevalence of HIV infection, and limited findings assessed the magnitude of diseases and related factors. **Objectives:** To assess factors associated with cryptococcal meningitis among people living with HIV infection in Sumbawanga Municipal Council, Rukwa, Tanzania. **Methodology:** This study was a cross-sectional survey employing quantitative data collection methods for 639 PLHIV attending nine health facilities in the Sumbawanga municipal council. The health facilities were selected using a multistage sampling technique. Descriptive statistics were used to summarise the data, including means, frequencies, and percentages. Inferential statistics such as chi-square or Fisher's exact tests and logistic regression were used to analyze the strength of the association between the independent and dependent variables. An odd ratio with a P-value of ≤ 0.05 was considered statistically significant, and the confidence level will be 95%. **Results:** The prevalence of cryptococcal meningitis was 11/639(1.7%), with 20.9% occurring in participants with a CD4 count <200 and 4.8% with >1000 viral copies. Only 1.3% of participants demonstrated a high knowledge level, while the majority (68%) had a low level of knowledge. Additionally, over half (55%) have positive attitudes, and almost three-quarters (62%) have negative perceptions of cryptococcal meningitis. Duration on ART, Participant adherence, and CD4 count were statistically associated with those who tested positive for CrAg P-value ≤ 0.005. **Conclusion:** HIV implementing programs strengthen continuous education for PLHIV to increase awareness on cryptococcal meningitis, scale up CD4 testing, and enhance follow-up PLHIV with poor adherence, CD4 count <200, and naïve to ART as these factors are associated with cryptococcal meningitis.

280. Mwasambili, S.A. (2024). Evaluation process of implementation of the redesigned logistics system: a case of health facilities and Medical Stores Department in Mwanza region: A process evaluation. Muhimbili University of Health and Allied Sciences.

ABSTRACT

Background: The availability of medicines at service delivery points in many African countries including Tanzania remains uncertain. The global funding of diseases like Human Immunodeficiency Virus/Acquired Immunodeficiency Syndrome, malaria and Tuberculosis has resulted in increased volumes of commodities that have exacerbated the limitations of an already existing inadequate supply chain infrastructures. The redesigned logistics system was one of the initiatives employed to address the supply chain bottlenecks. The effective implementation of the redesign is crucial in ensuring the constant availability of health commodities at service delivery points. However, the fidelity in the implementation of the redesign logistics system in Tanzania conterxt was unclear. Therefore, this study aimed to assess the implementation of the Redesigned Logistics System by health facilities and Medical Stores Department in MTHwanza region. **Materials and Methods:** This study was conducted at 47 health facilities in Magu district council including 1 hospital, 6 health centres and 40 dispensaries. Utilizing a sequential explanatory mixed method study design, the study involved both quantitative and qualitative cross section surveys. Quantitative data were collected on the electronic logistics Management information system, Epicor-10 and Facility Financial Accounting And Reporting System databases using a checklist. Qualitative data were gathered through interview with 15 key informants consisting of 7 health facilities personnel and 8 Medical Stores Department personnel. The quantitative data were analyzed by SPSS statistical package while NVivo version 14 was used for qualitative data analysis. **Findings:** Over six cycles, the redesigned Integrated logistics system increased the timely submission of bimonthly reports from 57.4% to 100%. However, Medical Stores Department struggled with timely delivery, with only 40.8% of supplies delivered on time and 59.2% falling out of timeframe. Magu district utilised only 11.1% of the total health expenditures for purchasing heath commodities below the 50% indicated in the national guidelines. The council hospital had a slightly higher proportion of total expenditure for health commodities as a (23.7%), while health centres (12.1%) and dispensaries (2.5%). The health sector basket fund was the highest source (43.5%) followed by user fees (28.9%) and National Health Insurance Fund (27.4%). **Conclusion:** The implementation of redesigned logistic system has significantly improved the timely

submission of health facilities bimonthly reports to Medical Stores Department. However, Medical Stores Department struggled with timely delivery of health commodities to health facilities due to frequent stock shortages, disrupted distribution cycles, infrastructure and human resource challenges. Despite, increased health facility's fund visibility, there was lower uptake of complementary funds for health commodities procurement that was below the guideline. The funds were lowest allocated for dispensaries with health sector basket funding being the main source fund. Staff motivation, internal and external pressure, and regular communication with stakeholders were among the factors that contributed to successful implementation. These findings underscores the need for policy intervention to address both systematic and operational challenges within the health supply chain, optimize resource allocation, and strengthen infrastructure and human resource capacities within the health system.

281. Mwavika, E.T. (2024). Prevalence, rate and predictors of virologic failure among adult HIV -infected clients on second-line antiretroviral therapy (art) in Tanzania (2018-2020). Muhimbili university of health and Allied Sciences.

ABSTRACT

Background: Antiretroviral Therapy (ART) has been proven to be highly effective in reducing the impact of Human Immunodeficiency Virus (HIV) infection. However, as more people receive initial ART treatment, the risk of developing resistance and eventual treatment failure increases, leading to the need for second-line treatment regimens. Understanding the factors that contribute to virologic failure to second-line ART is crucial in preventing switching to the more expensive and toxic third-line regimens. This study provides information on the prevalence, rate, and predictors of virologic failure (VF) among clients on second-line ART in Tanzania. **Results**: We followed 4,718 clients for 15,100 person-years (PY) of observations. Of them, 1,402(29.72%) experienced virologic failure, at a rate of 92.85 per 1000 PY of observations (95% CI 88.11, 97.84). Factors that were associated with VF included: having a viral load count of ≥1000 copies/mL during first-line ART, with adjusted hazard ratio (aHR) 4.65 (95% CI 3.57,

6.07), using lopinavir (LPV/r) as a protease inhibitor during second-line ART aHR 4.20 (95% CI 3.12, 7.10), having a CD4 count <200 cells/mm^3 during second-line ART aHR 1.89 (95% CI 1.46, 2.44), and being on ART for 13-35 months aHR 8.22 (95% CI 2.21, 30.61). Paradoxically, having a CD4 count <200 cells/mm^3 during first-line ART treatment was associated with a reduced risk of virologic failure aHR 0.77 (95% CI 0.60, 0.99). **Conclusions**: In Tanzania, approximately 30% of the adult clients on second-line ART experience VF at a rate of 92.71 per 1000 person-years. This high virologic failure rate highlights the need for targeted interventions for HIV-infected clients on second-line ART to reduce the need for switching to the more costly and relatively more toxic third-line ART therapy and help to achieve the third UNAIDS goal of achieving viral suppression for 95% of those treated by 2030.

282. Mwavika, R.T. (2024). Functional and radiological outcomes of patients with distal femur fractures treated surgically at Muhimbili Orthopedic Institute. Muhimbili University of Health and Allied Sciences.

ABSTRACT

Background: Surgically treating both extra-articular and intra-articular distal femur fractures is crucial in orthopedics due to intricate muscle attachments and knee joint congruity. Complications in healing and functional restoration may limit joint mobility. Limited data, especially at the Muhimbili Orthopedics Institute (MOI) in Tanzania, exist on radiological and functional outcomes. Understanding postsurgery outcomes is essential, given regional healthcare disparities and treatment approaches. **Objective:** To assess the functional and radiological outcomes of patients who underwent surgical treatment for distal femoral fractures at MOI between January and December 2023. Materials and **Methods:** A retrospective study was conducted at MOI, a tertiary hospital in Dar es Salaam, Tanzania. This study enrolled 60 participants with surgically treated distal femur fractures. Data from 43 patients with complete datasets were analyzed. Functional outcomes were assessed using validated scoring systems for pain, walking capacity, total range of motion, stability, and overall functional outcome. Using

Rassmussen functional score. Radiological outcomes were evaluated based on callus formation, articular depression, condylar widening, angulation, and overall radiological score. Statistical analyses included descriptive statistics, correlation tests, and inferential statistics (ANOVA). **Results:** The mean age of participants was 50 ± 19 (SD) years, with a range of 16 to 92 years. Motor traffic crashes (69.8%) were the predominant mechanism of injury. Fractures were classified primarily as AO type 33A3 (16.3%) 33C1 (30.2%) 33C2 (18.6%) and 33C3 (16.3%) while the remaining (18.6%) of the fracture types was 33A1 33A2 33B1, 33B2 33B3. Open fractures accounted for 23.3% of cases, predominantly Gustilo-Anderson Type IIA (60%). Functional outcomes assessed using Rassmussen Clinical assessment tool showed mean scores of 4.70 ± 0.89 for pain, 3.30 ± 1.34 for walking capacity, 3.95 ± 1.27 for extension, 3.56 ± 1.49 for total range of motion, and 4.33 ± 1.30 for stability, with an overall functional outcome score of 19.8 ± 5.04 with Good being 53%, Fair 39.5%, Excellent 4.7% and Poor 2.3%. Radiological outcomes averaged a score of 10.9, with adequate callus formation (41.9%) and varying degrees of articular depression, condylar widening, and xii angulation using the Rassmussen radiological assessment tool. Overall radiological outcomes were excellent in 14.0% of patients, good in 39.5%, fair in 34.9%, and poor in 11.6%. Significant correlations were found between functional and radiological outcomes, showing that better radiological healing was associated with improved functional outcomes. ($p < 0.001$)

283. Mwera, I.C. (2024). Prevalence of work-related injuries and associated factors among workers at two sugar industries in Tanzania. Muhimbili university of health and Allied Sciences.

ABSTRACT

Background: Work-related injuries pose significant challenges to public health and socioeconomic development. According to the International Labour Organization, an estimated 2.3 million workers die globally from work-related injuries and diseases, with approximately 340 million occupational injuries reported annually. This study addresses

information gaps regarding occupational safety and health practices in work environments. Assessing the prevalence and factors associated with work-related injuries in Tanzania's sugar industry is crucial for informing policy and improving safety measures, ultimately aiming to reduce injury rates and enhance worker well-being. **Methods:** This analytical cross-sectional study employed a quantitative approach and involved 338 workers from two sugar cane industries in Tanzania who participated in the last production season. A stratified sampling technique was used to recruit participants. Data collection included a questionnaire with structured questions and an environmental observation checklist. Data were analyzed using SPSS version 20, with descriptive, bivariate, and multivariate analyses presented in tables, figures, and text. For multivariate, a p-value of < 0.05 was considered statistically significant at the 95% confidence level. **Results:** The overall prevalence of work-related injuries for the last production season was 14.8%. Significant factors associated with the occurrence of these injuries included being aged 51 years and above [AOR: 3.119, 95% CI (1.279 – 34.821)], having a tertiary or higher educational status [AOR: 2.063, 95% CI (1.581–7.322)], alcohol consumption [AOR: 1.958, 95% CI (1.706 – 5.433)], and experiencing sleeping disorders [AOR: 1.391, 95% CI (1.358–5.406)]. In contrast, regular Occupational Safety and Health supervision [AOR: 0.307, 95% CI (0.171–0.581)] and the use of personal protective equipment (PPE) [AOR: 0.875, 95% CI (0.199–0.890)] were identified as protective factors against work-related injuries. **Conclusion and recommendations:** The prevalence of work-related injuries was low compared to Sub-Saharan countries. Key factors included old age, educational status, alcohol consumption, and sleeping disorders. Implementing an occupational health and safety management system, controlling workplace hazards, providing personal protective equipment, and offering relevant training could have helped prevent these injuries.

284. Mwerangi, M.S. (2024). Prevalence and factors associated with soil transmitted helminths infection among adolescents in secondary schools, in Bukoba municipality, Kagera region, northwest Tanzania. Muhimbili University of Health and Allied Sciences.

ABSTRACT

Background: Soil-transmitted helminths (STH) are a major public health concern, particularly in resource-limited regions like sub-Saharan Africa. These parasitic infections are prevalent in areas with inadequate sanitation and poor hygiene practices, affecting millions of people, especially children. In Tanzania, preventive chemotherapy (PC) programs have successfully reduced STH infections among primary school children. However, adolescents in secondary schools are often excluded from these programs, leaving them vulnerable to reinfection. This gap in intervention increases the risk of morbidity, which can lead to anemia, malnutrition, and impaired cognitive development, ultimately affecting educational outcomes. Therefore, it is crucial to assess the prevalence of STH and identify the factors associated with these infections among secondary school students to inform targeted interventions. **Methodology:** A school-based cross-sectional study was conducted among 585 adolescent secondary school students in Bukoba Municipality, Kagera Region, Northwestern Tanzania. Participants were selected using systematic random sampling. Stool samples were collected and examined using standard parasitological techniques to determine the prevalence and intensity of soil-transmitted helminth (STH) infections. The intensity of infection was quantified by counting eggs per gram (EPG) of feces. Data on socio-demographic characteristics, environmental factors, and personal hygiene practices were collected through a pre-tested, structured questionnaire. The data were analyzed using SPSS version 20. Descriptive statistics were used to summarize categorical variables as proportions, and continuous variables as means with standard deviations. Modified Poisson regression was employed to estimate the relative risks (RR) and determine the association between STH infections and the independent variables. Statistical significance was set at a p-value of <0.05 **Results:** The overall prevalence of soil-transmitted helminth (STH) infections among the adolescents was 16.1% (95% CI: 13.1%–19.4%). The specific prevalence rates were 5.8% (95% CI: 4.1%–8.1%) for Ascaris lumbricoides, 10.8% (95% CI: 8.4%–13.7%) for Trichuris trichiura, and 2.4% (95% CI: 1.4%–4.1%) for hookworm. The geometric mean egg counts were 633.5 eggs

per gram (EPG) for Ascaris, 246.5 EPG for Trichuris, and 115.5 EPG for hookworm. vi Most infections were of light intensity, with moderate infections being relatively rare, and no cases of heavy infection were observed. WASH (Water, Sanitation, and Hygiene) practices were significantly associated with STH infections. Adolescents who washed their hands only a few times per day had a higher infection rate of 19.3% (95% CI: 14.3%–25.4%) compared to those who washed many times per day (15.3%, 95% CI: 11.4%–20.2%) or always (10.1%, 95% CI: 6.7%–14.9%). The relative risk (RR) for STH infection was higher among those who washed their hands a few times per day (RR = 2.0, 95% CI: 1.1–3.6, P = 0.049) compared to those who always washed their hands. The availability of a handwashing facility was also associated with infection rates. Adolescents without access to a washing facility had a prevalence rate of 15.9% (95% CI: 11.7%–21.2%). The use of untreated well water for drinking and domestic purposes was associated with a significantly higher STH infection rate of 28.1% (95% CI: 19.5%–38.8%), compared to those using rainwater (9.8%, 95% CI: 5.5%–16.7%), with an Adjusted Odds ratio (AOR) of 2.3 (95% CI: 1.0–5.4, P = 0.046). Furthermore, the proximity of the toilet to the home showed that 92.5% (95% CI: 89.5%–94.7%) of households had accessible toilet facilities, which correlated with reduced contamination risks and lower infection rates. **Conclusion and recommendations:** The study highlights a moderate prevalence of STH infections among adolescents in Bukoba Municipality, demonstrating the significant impact of WASH practices and knowledge on infection rates. To address this, it is crucial to implement targeted interventions within secondary schools, including the installation of reliable handwashing facilities, ensuring access to safe drinking water and upgrading sanitation infrastructure. Strengthening health education programs to promote proper hygiene practices is essential. These measures will not only reduce STH infections but also enhance adolescent health and academic performance, contributing to improved public health outcomes in the region.

285. Mwinchande, T.R. (2024). The prevalence of urogenital schistosomiasis and associated risk factors among selected secondary school adolescents in north “a” district of Unguja, Zanzibar. Muhimbili University of Health and Allied Sciences.

ABSTRACT

Background: The control of schistosomiasis has largely focused on Preventive Chemotherapy (PC) with Praziquantel (PZQ) for school age children (SAC) leaving out other at-risk individuals, including adolescents in secondary schools who are likely to be reservoirs of infection transmission in the community would make elimination efforts unrealistic. Despite wide coverage of SAC with PC, on exit from school they no longer receive PC with possible re-infection with *S. haematobium* while in secondary schools. The prevalence of urogenital schistosomiasis and associated risk factors among adolescents in secondary schools have not been fully established in Zanzibar. **Objective:** This study examined the prevalence of urogenital schistosomiasis and associated risk factors among adolescents in selected secondary schools of north A district, Zanzibar. **Methodology:** A cross-sectional mixed design study with quantitative and qualitative parts was carried out among 583 secondary school adolescents in Zanzibar, June 2024. Self-administered questionnaire interviews were conducted to gather information on socio-demographics, risk factors for urogenital schistosomiasis (knowledge and attitudes), as well as water contact practices. Each student provided urine samples for parasitological examination so as to obtain the prevalence and intensity of *S. haematobium* eggs. Complementary qualitative data were obtained with in-depth interviews of selected students to gather their view points on urogenital schistosomiasis as a public health problem. Quantitative data were entered into Stata Version 13 software, cleaned and organized for analysis. First, descriptive statistics were computed, followed by comparisons at two variables using the appropriate chi-square test, independent variables with P value = 0.2 were entered as co-variates into multivariate logistics regression analysis to obtain crude Odds Ratios (cOR) with their 95% CI. To control for possible confounders, adjusted Odds Ratios (aOR) with their 95% CI were computed. The level of significance was set at P = 0.05. For the qualitative part, the data were transcribed and coded for both thematic and content analysis. **Result:** A total of 583 students were enrolled in the study, had mean age of 15.86 with standard deviation (SD=1.2). Of the enrolled adolescents, 209 were males. Overall, 20 (3.4% [95% CI=1.9-

4.9]) of the students were infected with schistosomiasis. Males 13 (6.22%) were more infected than females 7 (1.9%) and infection was significantly associated with sex (χ^2= 7.7, p-value=0.006). Of the infected adolescents, 16 (80%) had light intensity and 4 (20%) had heavy infection and late adolescents were more infected 18(3.1%) than early adolescents 2 (0.30%) with (χ^2 = 8.63, p = 0.003). Good attitudes towards urogenital schistosomiasis were not statistically significant since (cOR 0.485,[95% CI 0.056–4.17], P = 0.51), fishing and swimming in water bodies were also not statistically significant (cOR 0.48, [95% CI 0.15–1.50], P = 0.21) and (cOR 0.68, [95% CI 0.25–1.89], P = 0.46) respectively, and knowledge of urogenital schistosomiasis was not statistically significant (cOR 1.67, [95% CI 0.20–14.17], P = 0.05). The multivariate logistic analysis revealed that knowledge, attitudes, and water contact practices were associated with urogenital schistosomiasis in adolescents, with sex being a significant factor [adjusted odds ratio (aOR 5.9, [95% CI 2.00–17.93], P = 0.001) which males had higher odd of urogenital schistosomiasis. **Conclusion and recommendation:** There is ongoing transmission of urogenital schistosomiasis in North A District, Zanzibar, despite several rounds of preventive chemotherapy (PC), with a prevalence of 3.4%. Factors such as knowledge, attitudes, and water-contact activities have been linked to the continued transmission. Strategies to control and prevent urogenital schistosomiasis should focus on promoting PC specifically for secondary school adolescents (aged 13–19), increasing knowledge and awareness, encouraging behavior change, improving attitudes toward the disease, and promoting safe water management practices.

286. Mwindadi, D. (2024). Factors associated with treatment outcome of *H. pylori* among dyspeptic patients using clarithromycin-based therapy at Muhimbili National Hospital. Muhimbili University of Health and Allied Sciences.

ABSTRACT

Background: *Helicobacter pylori* affect 50 % of the world population, the highest rate of infections seen in developing nations due to poor socioeconomic status and subpar medical services. Although treatment has been available for more than 2 decades,

currently failure of treatment with the standard regimen has been noticed. Several factors are seen attributed to the treatment failure, including but not limited to, antibiotic resistance, socio-economic status, diet and many more. Few studies have been done in Africa, and fewer in East Africa to determine the factors that influence treatment outcome of *H. pylori* infection. **Objectives**: To determine the factors associated with treatment outcome of *H. pylori* infection with clarithromycin-based therapy among dyspeptic patients at MNH Upanga **Methodology**: A cross-sectional study at the Endoscopy unit at MNH Upanga was conducted between July 2022 to February 2023. All dyspeptic patients with stool antigen positive for *H. pylori* were given first line therapy (metronidazole, clarithromycin and PPI), and stool antigen was repeated 6 weeks after completion of the treatment. Biopsies were taken among those with positive stool antigen for *H. pylori* after 6 weeks and culture and AST was done. Data of socio-demographics, endoscopy results, adherence to treatment, previous treatment with triple therapy and failure to eradicate *H. pylori* was tested for after 6 weeks follow up were documented. SPSS version 23 was used for data analysis with statistically significant association from a p-value <0.05. **Results**: Cumulatively 385 patients with stool antigen for *H. pylori* were enrolled; mean age (±SD) was 41 (±14) years. Females were more than half of the patients 213 (55.3%), 171 (44.4%) were college graduates, and approximately half of the patients were self-employed 178 (46.2%). Only 11 (3%) were currently smoking, one third reported alcohol use 149 (38.7%). First line treatment failure as defined positive stool antigen 6 weeks post treatment was observed in 132 (38.3%) of patients. Independent predictors of first line treatment failure were smoking (OR:7.9, 95%CI (0.93 – 6.7), P = 0.03), concomitant herbal medication (OR:6.7, 95%CI (3.9 – 11.6), P <0.001), endoscopy findings (OR:1.7, 95%CI (0.61 – 3.71), P =0.48) and adherence to treatment (OR:6.2, 95%CI (3.52 – 10.8), P<0.001). From 130 patients 86 (66.15%) were inoculated and AST was done, antibiotic resistant patterns were 30% amoxicillin, 62.8% metronidazole, 30% and for clarithromycin. **Conclusion**: About one third of patients showed no eradication from clarithromycin- based therapy which is usually the first line used. This is below the guideline recommended value. Poor adherence, concurrent use of herbal medication and cigarette smoking were seen as significant causes of poor eradication of *H. pylori*

eradication. The resistance to all medication used as first line in the management of *H. pylori* are still staggeringly high. Treatment pf *H. pylori* infection should be individualized per patient as not all patients will respond to the same regimen due to increased antibiotic resistance.

287. Mwita, R.A. (2024). Performance of a triage algorithm for psychiatric screening in determining the absence of acute medical illness among adult patient presenting with acute psychosis at emergency Department of the Muhimbili National Hospital. Muhimbili University of Health and Allied Sciences.

ABSTRACT

Background: Some psychiatric disorders that appear to be organic or medical in origin may require immediate or emergency medical attention. Due to psychiatric presentation being caused by either organic of functional causes, sorting of patient at a triage unit with a proper screening tool will allow early identification of psychotic disorders with proper disposition and management at designated unit. An accurate standardized tool is needed to detect the absence of acute medical illness in patients who presents with psychiatric chief complaint. Triage algorithm for psychiatric screening tool was developed as a 6-question form which aided physicians in determine which patients could safely bypass the main emergency department. **Objective:** To determine the feasibility and performance of Triage Algorithm for Psychiatric screening Tool (TAPS) in determining the absence of acute medical illness in adult patients presenting with acute psychosis at Emergency Department (ED) of Muhimbili National Hospital (MNH). **Methodology:** This was a prospective cohort study of patients presenting at ED MNH from April to June 2023 with acute psychosis. Patients with psychotic symptoms were seen by a triage physician and consecutively enrolled in the study by a physician who screened using TAPS tool after being consented. Patients were managed either at ED or psychiatric unit as per triage physician discretion. Patients were followed up until discharge and diagnosis was based on psychiatric final diagnosis at discharge. A Redcap application was used for data entry, data management and analysis were done using SPSS software. Descriptive

analysis was done to describe the study population and analysis of sensitivity, specificity, negative and positive predictive values to determine the diagnostic accuracy of the TAPS tool for detecting organic disease. **Results:** A total of 280 patients with psychotic symptoms and 26 physicians were enrolled into the study. The majority 123 (43.9%) of patients were aged between 16 and 24 years. Previous history of mental illness was reported by 118 (42.1%) of participants. Fourteen percent of respondents reported one or more comorbidities, with hypertension 18 (43.9%), HIV/AIDS 9(22.0%), and diabetes 12 (31.7%) being the commonest. The median time to complete the TAPS screening was 4 minutes and 88.5% of physician felt comfortable using the tool. Twenty-six (9.3%) patients were ultimately diagnosed with organic disease. The TAPS tool correctly identified 20 patients with organic for a sensitivity of 76.9% for identifying organic disease, specificity of 94.5%, negative and positive predictive of 58.8% and 97.6%. The triage physician correctly identified 15 patients with organic disease for a sensitivity of 57.7% for identifying the organic patients and specificity of 90.9% for ruling out organic disease with a positive and negative predictive value of 39.5% and 95.1% respectively. The commonly performed tests ordered by psychiatrist for ruling out organic causes of psychosis were liver function test (40.7%), renal function test (49.6%) and complete blood count 51.4% **Conclusion:** The study demonstrated the feasibility and acceptability, and effectiveness of the TAPS tool for screening organic causes of acute psychosis. TAPS tool has better test characteristics with a higher sensitivity and specificity compared to that of the triage physicians hence TAPS can be used as alternative to physician decision. The use of TAPS at ED will ultimately improve screening for patient presenting with psychotic symptoms and reduce probability of missing organic cause of psychosis at ED.

288. Myamba, M. (2024). Experiences of women with crawling disability in accessing maternal healthcare services: A case in Tanzania's western zone region of Tabora. Muhimbili University of Health and Allied Sciences.

ABSTRACT

Background: Women living with crawling disability are doubly disadvantaged due to stigma associated with sexual interest as result there are some factors influencing crawling women's access to maternal healthcare services. They are rarely a public health concern due to the assumption that they are sexually inactive and they do not desire to have off springs thus they are not in need of reproductive and maternal health care service. **Objective:** The study describes the experiences of WWCDs in accessing maternal health care services during pregnancy, childbirth, and postpartum care in Nzega District of Tanzania. **Materials and Methods:** Six WWCDs in reproductive age 18 to 44 years were interviewed through in-depth interview and attended a focus group discussions session conducted during data collection. For this study data collection involved two methods in- depth interviews and focused group discussion to explore the experiences of women with crawling disabilities in accessing maternal healthcare services in Nzega District. **Results:** All participants reported routine attendance in different health facilities accessing for maternal health care services during pregnant, child birth and postpartum care. They mentioned attend for pre and postpartum care services. Despite the reported routinely attendance in health care during pregnant, child birth and postpartum care this group still bears, Experience from difficulties during provision of maternal health care services, personal attitudes, additional costs, Lack of companionship, Unnecessary referrals for WWCDs during pregnancy, Unfriendly Infrastructures, Lack of support from partners and Lack of common facilitators for WWCDs to access maternal health care services. **Conclusion and recommendations:** My findings show, WWCDS are too much exposed to risks associated with maternal health care services. Habitual and seasonal social, cultural and livelihood are keeping WWCDs belonging to reproductive age being at risk during pregnant, child birth and post-partum care. **Recommendations:** There is the need for health education about maternal healthcare services for WWCDs, implement tailored targeting, conduct process evaluation to identify barriers, emphasize attendance of clinics during pregnancy for WWCDs.

289. Nankondo, T. (2024). Assessing the effectiveness of ABC and Ved analysis for pharmaceutical inventory control at Tumbi Regional Referral Hospital. Muhimbili university of health and Allied Sciences.

ABSTRACT

Background: Pharmaceutical Inventory control aims to protect all drugs and prevent loss, damage, theft, or wastage while ensuring timely and affordable delivery from source to user. There are various methods involved for inventory control but two are commonly used which are Always, better and control (ABC) and vital, essential and desirable (VED). ABC analysis enables efficient management of pharmaceuticals, especially in hospitals and healthcare supply chain facilities; it also helps compare the cost of managed items. Studies show that approximately 33% of the hospital's yearly budget is allocated to procurement, encompassing essential items such as medications. The costs of these supplies demonstrate significant variability, underscoring the importance of efficient inventory management to maximize the budget's effectiveness. Combined with VED analysis, ABC gives better results for products with high priority considering the price and public health importance. **Objective:** To assess the effectiveness of ABC and VED analysis for pharmaceutical inventory control at Tumbi Regional Referral Hospital **Materials and methods:** This cross-sectional hospital-based study was conducted at Tumbi Regional Referral Hospital. The study included medicines procured in the fiscal year 2020/2021 to the fiscal year 2022/2023. Data were retrieved from the drug store ledger in Tumbi Regional Referral Hospital. The overall costs for each item were computed and organized in descending order. Products were categorized into ABC categories. VED analysis was done through judgmental methods. The analysis was performed using the Excel spreadsheet (Microsoft Excel®, Microsoft Corporation). **Results:** On ABC analysis a total number of 177 essential generic drugs which was procured by Tumbi Regional Referral Hospital in three financial years from July 2020 to June 2023 were analyzed. The study found that in class A, 37 medicines accounted for 20.90% of all procured products and represented 70.16% of the total cost. In class B, 45 products made up 25.42% of all products and used 20% of the total cost. Class C

included 95 products, comprising 53.67% of all products, but only accounted for 9.84% of the total cost. The distribution of class A medicine was 19.35%, 18.18%, and 21.33% for the financial years 2020/2021, 2021/2022, and 2022/2023, respectively. Class B medicines constituted 23.65%, 27.27%, and 23.33% of the total procurement in the financial years 2020/2021, 2021/2022, and 2022/2023, respectively. Class C medicines accounted for 56.98%, 54.54%, and 55.33% in the same respective years. VED analysis revealed that 27 vital items made up 15.25% of the total medicines purchased over the three financial years. Additionally, 125 essential medicines accounted for 70.62% and 25 desirable medicines made up 14.12% of the total procurement. The study combined the ABC and VED into three categories. Category I: Comprising 58 items, including costly and crucial medicines (AV+ AE + AD+ BV+ CV = 6+26+5+10+11 items). Category II: Consisting of 101 items (BE, BD, and CE = 33+2+66 items). Category III: This category encompasses 18 items, which are the most economical and desirable. **Conclusions:** The study concludes that ABC and VED analysis significantly enhances inventory control by ensuring a balanced and readily available stock of pharmaceuticals. This approach encompasses high-cost, medium-cost, and low-cost items while simultaneously guaranteeing the availability of vital, essential, and desirable medicines. By integrating ABC and VED analysis, healthcare facilities can optimize their inventory management processes, thereby ensuring that they consistently provide high-quality service to the public.

290. Nassor, N. (2024). Perceived threats, challenges and coping strategies of care givers in caring for cervical cancer patients receiving chemoradiotherapy at Ocean Road cancer institute in Dar es salaam, Tanzania. Muhimbili University of Health and Allied Sciences.

ABSTRACT

Background: Cervical cancer is a significant health concern for women worldwide, with 90% of cases occurring in underdeveloped countries. Low resource settings are specially affected due to numerous challenges in regard to screening and treatment access.

Chemoradiotherapy is reported to be inaccessible and associated with adverse Effect. Caregivers usually encounter wide range of challenges ranging from emotional, psychological, financially and health-related effects. There is a need to study how caregivers perceive and cope with these challenges. **Objective:** This research aimed to explore the perceived threats and coping strategies of caregivers in caring for cervical cancer patients receiving chemoradiotherapy at the Ocean Road Cancer Institute (ORCI) in Dar es Salaam, Tanzania. **Methodology:** A phenomenological qualitative study was carried out among caregivers caring for cervical cancer patients on treatment at ORCI. The study utilized purposive sampling and collected data through in-depth interviews (IDI) with a total number of 13 participants, recordings, and field notes using an IDI guide. Audios were verbatim transcribed and triangulated with field notes. Thematic content analysis was done using NVivo 10 software, wherein line coding was conducted and aggregated into subthemes and, eventually themes. **Results:** Three key themes revealed in cervical cancer patients' caregiving are perceived threats about cancer diagnosis and treatment, Challenges faced by cervical cancer caregivers, and Coping strategies for addressing caring challenges. The themes suggest that caring for cervical cancer patients is fraught with emotional distress due to perceived threats related to diagnosis and treatment. Additionally, caregivers encounter numerous challenges that require effective coping strategies that are sustainable. **Conclusion:** The findings of this study revealed the multifaceted challenges of caregiving for cervical cancer patients along with the coping strategies. This emphasizes the need for peer support ecosystems and interventions.

291. Ndossa, A. I. (2024). Costs associated with the management of diabetes and hypertension and the incidence of catastrophic health expenditure among patients receiving care through a community-based approach in Zanzibar. Muhimbili University of Health and Allied Sciences.

ABSTRACT

Background: The remote care bundle project is implemented by Pharm Access to complement the government efforts in controlling non-communicable diseases (NCDs) in Zanzibar. The project aims to increase access to NCD care at the community level since the facility model is faced with challenges that hinder and compromise patient access to quality care. The community strategy seems to improve treatment outcomes but evidence on the patients' costs associated with care seeking is limited. Therefore, this study aims to determine the costs and incidence of catastrophic health expenditures associated with the management of diabetes and hypertension among patients receiving community-based care in Zanzibar. **Methodology:** A cross-sectional study was conducted alongside the "Remote care bundle for NCD patients" project. A total of 295 patients (221 hypertensive, 12 diabetics, and 62 with both hypertension and diabetes) from 12 active groups receiving care and treatment through a community-based approach were included. Exit interviews were conducted after they had received care. Catastrophic health expenditure (CHE) was defined as patients' costs exceeding 10% of income. The concentration index was used to describe inequality in the distribution of CHE across socioeconomic groups. Cost data were collected using a standard patient cost questionnaire adapted from WHO and analyzed using STATA software version 16. **Results:** The mean annual cost associated with seeking NCD care through the community-based approach was USD 121, USD 81, and USD 135, for diabetes, hypertension, and both (diabetes and hypertension), respectively. The proportion of patients that experienced CHE was 67%, 52%, and 66% for diabetic, hypertensive, and both (DM and hypertensive) patients. Furthermore, patients from the poorest and second poorest wealth quintiles were four times and nine times more likely to experience catastrophic health expenditure compared to the least poor, with an adjusted odds ratio of (aOR) of 4.6 and 9.9, respectively. **Conclusion:** Provision of NCD care through the community-based approach was associated with high productivity loss, resulting in a high incidence of catastrophic health expenditures. Therefore, vii the government should implement intervention to reduce productivity losses associated with the community-based approach for provision of NCDs services.

292. Ndulute, K.T. (2024). Incidence and factors associated with HIV viral rebound following initial viral suppression among fisher folks on antiretroviral therapy in Ukerewe district council. Muhimbili University of Health and Allied Sciences.

ABSTRACT

Background: Achieving and maintaining HIV viral suppression is the ultimate goal in the treatment of HIV-infected patients. However, many individuals who have achieved initial HIV viral suppression are unable to maintain the anticipated viral load suppression and experience viral rebound. Individuals who catch fish for a living (Fisherfolks) are among the risk groups. This is because their livelihood involves migration or relocation between islands which makes them prone to experience HIV viral rebound. **Objective:** This study aimed to determine the incidence and factors associated with HIV viral rebound following initial viral suppression among fisher folks on antiretroviral therapy (ART) in Ukerewe DC between 2019 and 2022. **Materials and Method:** This was a retrospective cohort study that included 932 Fisher folks on ART aged ≥15 years, from 2019 to 2022. The primary outcome was HIV viral rebound, which was measured as at least one viral load test result of ≥1000 copies per ml. The factors associated with viral rebound were assessed using the Cox regression model. **Results:** Data from 932 participants were included in the study. Overall, 572 (61.4%) were females and most participants lived in rural areas 655 (70.3%). More than half of the participants were aged between 25 and 44 years, 485 (52%), and 527 (56.5%) were married. Of the 932 participants, 46 (4.94%) experienced a viral rebound. The overall incidence rate of viral rebound was 1.06 per 1000 person-months. Being an unstable client (Adjusted Hazard Ratio-aHR=4.61, 95% Confidence Interval, CI 1.95-10.90; p=0.001) and living more than 10 km from a health facility (aHR=2.59, 95% CI 1.30-5.18; p=0.007) were associated with HIV viral rebound. **Conclusion and Recommendations:** The rate of viral rebound was relatively lower in this population. However, unstable clients and clients living more than ten kilometers from health facilities were associated with viral rebound. Expanding facility-led community ART services that include adherence

counseling sessions, health education, and ART refills may help to reduce viral rebound among this fishing community.

293. Ndyamkama, A.A. (2024). Knowledge and associated factors on sickle cell retinopathy among health care workers in selected hospitals in Dar es salaam. Muhimbili University of Health and Allied Sciences.

ABSTRACT

Background: Sickle cell retinopathy (SCR) is a vision threatening ocular manifestation of sickle cell disease (SCD). Visual impairment and blindness due to SCR can be prevented by early screening and timely treatment. Healthcare worker's knowledge on SCR aids in early referral for proper eye care. Despite large number of patients with SCD in Tanzania, few patients seek eye care services and even those who seek eye care are found to have advanced stages of SCR. Knowing healthcare worker's knowledge on SCR will help in establishing evidence-based protocol for timely referral to ophthalmologist for early screening and proper management. **Aim:** To determine the level of knowledge and associated factors on SCR among healthcare workers in selected hospitals in Dar es Salaam. **Methodology:** Hospital based cross-sectional study was conducted among randomly selected 620 nurses and clinicians. Interviewer administered structured questionnaire was used to collect data. Chi square or Fishers exact test was used to show the relationship between level of knowledge and the independent variables. Univariate and multivariate modified Poisson regression model was used to determine the strength of associations. A P value ≤ 0.05 was considered statistically significant. **Results:** A total of 620 healthcare workers were recruited and all were analyzed. There were 63.9% nurses and 36.1% clinicians. Most (56%) were females and most (50.5%) were aged < 35 years with a median age of 35 (IQR: 31, 40) years. The median level of healthcare worker's knowledge on SCR was 54.5% with IQR (82, 27). Being specialist (aPR=2.9, CI =1.143 – 7.342 and P= 0.025) and shorter duration since graduation (aPR= 0.7, CI=0.494 – 0.961, P= 0.028) were statistically significant associated with adequate knowledge on SCR. **Conclusion:** Less than one third of healthcare workers were aware

of sickle retinopathy and only about half of them had adequate level of knowledge on SCR. Being a specialist, less than five years since graduation, duration of practice for more than ten years and working at national hospital were associated with adequate knowledge on SCR among healthcare workers. **Recommendation:** Expansion of on job training to all healthcare workers who provides healthcare services to patients with SCD and to establish a link between SCD clinic and eye clinic to simplify cross departmental consultations are recommended.

294. Ndyamukama, G.G. (2024). Factors affecting adherence to anti-retroviral therapy among adults living with HIV: a case of Ilemela Municipal Council, Mwanza, Tanzania. Muhimbili University of Health and Allied Sciences.

ABSTRACT

Background: People living with HIV (PLHIV) have shown poor adherence to Antiretroviral Therapy (ART) in Tanzania. Poor adherence to ART may lead to the development of drug-resistant HIV strains, transmission during high-risk activities, and higher mortality rates. This is due to insufficient suppression of the HIV viral load and increased susceptibility to opportunistic infections. Despite increased access to CTCs and free ART services, ART adherence in Tanzania is low, ranging from 47% to 71% among PLHIV. Aim: This study aimed to explore factors affecting ART adherence among adults living with HIV in the Ilemela district council, Mwanza, Tanzania. Materials and **Methods:** This was a qualitative case study design study. A purposive sampling was employed to select study participants. Data were collected through an in-depth interview guide and observation methods. A total number of thirteen participants participated in this study. The interviews were digitally recorded, transcribed verbatim, and analysed using the thematic approach. Findings: It was revealed that social demographic factors such as sex, age, education, and marital status affect adherence to ART among adult PLHIV.Similarly, clinical factors such as comorbidities affect adherence to ART among adults PLHIV while some qualified healthcare providers and ARV drugs' side effects do not affect ART adherence. Furthermore, the patient's behavioural factors reported to

affect adherence to ART were non-disclosure of HIV status, belief in faith and spiritual healing, use of herbals or traditional medicines, food availability, substance abuse or alcohol use, psychiatric problems, lack of psychosocial support and stigma. Likewise, health system factors such as health care providers' attitudes, long waiting times and privacy of PLHIV clients at the CTC affect adherence to ART**. Conclusion:** Different factors affect adherence to ART among adults PLHIV. More awareness should be given by healthcare providers at CTCs to all PLHIV on ART on the importance of adhering to ART.

295. Neville, M. (2024). Functional outcomes of patients following concomitant anterior cruciate ligament reconstruction and partial meniscectomy at Muhimbili Orthopaedic Institute. Muhimbili university of health and Allied Sciences.

ABSTRACT

Background: Injuries to the anterior cruciate ligament (ACL) are often accompanied by damage to other knee structures, most commonly the meniscus. When performing ACL reconstruction (ACLR), addressing a concomitant meniscal tear is often necessary. In certain cases, partial meniscectomy remains the preferred surgical approach. At Muhimbili Orthopaedic Institute (MOI), combined ACLR and partial meniscectomy are routinely performed. **Objectives:** This study aimed to evaluate the functional outcomes of patients undergoing concomitant ACL reconstruction and partial meniscectomy at MOI. **Materials and Methods:** A longitudinal study design was employed. Adult patients (aged 18 and above) who met the inclusion criteria and underwent partial meniscectomy alongside ACL reconstruction were recruited (n=34). Participants underwent assessments of knee function (pain, range of motion) pre-surgery and at follow-up intervals (2nd, 6th, 12th, and 16th weeks). Data were collected using a pre-tested questionnaire. The primary outcome measure was the Lysholm score, which was used to assess knee function alongside knee range of motion. Pre-surgical scores served as a baseline for comparison. Statistical analysis was performed using SPSS version 27. **Results:** A total of 34 participants were enrolled in the study. Participants were

predominantly younger than 40 years old (82.4%) and male (64.7%). Most surgeries (88.2%) were performed more than 3 months after the initial injury, with a wide range observed (minimum: 0.9 months, maximum: 248.4 months, mean: 43.03 months). Sports injuries were the most frequent cause (79.4%), followed by motor vehicle accidents (14.7%). There was no statistically significant association between sex, age group, or duration of injury and functional outcomes at the 16-week follow-up ($p > 0.05$ for all). All participants achieved good to excellent Functional outcome by Lysholm scores at 16 weeks, with the majority (61.8%) scoring in the excellent category. The mean Lysholm score demonstrated a significant improvement from baseline (63.26 ± 12.27) to 16 weeks (94.21 ± 3.79), with a mean improvement of 30.94 points ($p < 0.05$). **Conclusions:** These findings suggest that patients undergoing concomitant anterior cruciate ligament reconstruction and partial meniscectomy at MOI experience good functional outcomes at 16 weeks post-surgery. While sex, age, and time since injury did not significantly impact outcomes at this follow-up point, further research is warranted to investigate longer-term functional recovery and potential factors influencing long-term outcomes.

296. Ng'ida, D. (2025). Incidence and factors associated with mother to child transmission of HIV among exposed infants on HIV prophylaxis in Tanzania from 2017 TO 2021. Muhimbili University of Health and Allied sciences.

ABSTRACT

Background: Roughly 160,000 children were newly infected with HIV in 2021 worldwide. Overall, 4% of people living with HIV (PLHIV) in 2021 were children aged 0 to <15 years. About 85% are from sub-Saharan Africa. In Tanzania, MTCT (Mother to Child Transmission) is 3.6% at six weeks and can triple by the end of breastfeeding if proper interventions are not taken. UNAIDS (Joint United Nations Program on HIV/AIDS) 2023 report states the overall transmission rate to be 6.9% including those who are breastfeeding. The provision of HIV triple therapy to HIV exposed infants is among the latest prevention opportunities. Despite these interventions, there is still a substantial rate of vertical transmission at 6.9% versus the country's target which is <4%

necessitating the need to assess the contributing factors especially after this latest intervention. **Objective:** The study mainly aims at determining the incidence rate of mother to child transmission and factors associated with transmission among HIV exposed infants receiving HIV prophylaxis in Tanzania. **Methods:** A retrospective cohort study involving mother-child pairs from all 26 regions of Tanzania's mainland was conducted using existing routine data (secondary data) from the HIV care and treatment electronic (CTC3) database. All HIV-exposed infants aged ≤ 18 months registered in health facilities offering PMTCT services in the country from January 2017 to December 2021 were enrolled in the study. Infants were followed up for 18 months from birth; between June 2018 to June 2023. Data was summarized appropriately: Age was summarized by median and interquartile range after testing for normality. Categorical variables were summarized using frequencies and percentages. The incidence rate of MTCT is estimated. Factors associated with HIV transmission were established using a bivariable and multivariable Cox proportional hazard model. All analysis were considered statistically significant at 0.05 significance level. **Results:** A total of 16,917 mothers-infant pairs were analyzed, of which 8,578 (50.71%) were female infants. The overall incidence rate was 1.69 (95% CI, 1.63 – 1.75) per 1,000 person-years with variation across various groups (Antiretroviral drugs (ARV) adherence status and WHO clinical stage of the mothers, HIV prophylaxis provision at birth and feeding mode for the first six months of life for infants). Factors such as increase in age of the mother decreased the risk of vertical transmission. Infants born to mothers with poor ARV adherence aHR 2.52 (95% CI, 1.60-3.97), those who were mixed fed during the first six of months of life aHR 6.16(95% CI, 4.69-8.10) and those who were kept on Nevirapine therapy only aHR 3.89 (2.99-4.68) had elevated risk for mother to child transmission of HIV and the associations were statistically significant. **Conclusion:** Overall incidence rate of Mother to Child Transmission of HIV was found to be low after initiation of triple therapy prophylaxis for high-risk HIV exposed infants. However, the rate varies across various groups from mother factors to infant's factors. Mother's age, ARV adherence of the mother, feeding mode of the infant and type of prophylaxis given to the infant were identified as factors associated with mother to child transmission of HIV.

297. Ng'unda, N.A. (2024). Prevalence and factors associated with depressive symptoms among people living with HIV in Moshi municipality, Tanzania. Muhimbili University of Health and Allied Sciences.

ABSTRACT

Background: Depression is a common mental disorder accounting for 3.8% disability worldwide; and 38% in East Africa. There is an increase in the prevalence of depressive symptoms in people living with Human Immunodeficiency Virus (HIV) than in the general population which may impair adherence to treatment and quality of life. The use of ART has increased the life span of People living with HIV (PLWH) thus they grow to old age and increase the risk of diabetes. There are biological and psychosocial factors associated with depressive symptoms in PLWH. Therefore, this study determined the prevalence and factors associated with depressive symptoms among people living with HIV in Moshi Municipality, Tanzania. **Objective:** The study determined the prevalence and factors associated with depressive symptoms among people living with HIV in Moshi Municipality, Tanzania. **Methodology:** A cross-sectional analytical study was conducted among People living with HIV (PLWH) using a multistage systematic sampling technique in selecting study participants. A structured social demographic questionnaire, DUKE-UNC Functional Social Support Questionnaire to measure social support, a Patient health questionnaire (PHQ-9), a brief copying scale, glycated hemoglobin (HBA1c) tools, and patient medical report were used in collecting data. Data were entered and analyzed using STATA version 16. Descriptive data were described using the mean as well as standard deviation. Bivariate and multivariate logistic regression were done and adjusted for intra-cluster of outcomes to assess the association between the independent and dependent variables with a statistical significance p-value<0.05. Data collection was between September to October 2023. **Results:** A total of 598 clients participated in this study from four care and treatment Clinics (CTCs) in three health facility levels with just above half (56%) from the secondary health facility level. Almost three-quarters (70.9%) of the participants were female. The Prevalence of depressive symptoms were 14% (N=86). Factors associated with depressive symptoms were,

secondary health facility AOR 1.28(95% Cl:1.14-1.76), family history of mental illness AOR 2.91(95% Cl:1.58-5.37, good social support AOR 11.11(95% Cl: 2.61-17.1), average social vi support AOR 5.44 (95% Cl:1.81-7.38) and higher maladaptive copes AOR 4.57(95% Cl:3.32 6.30). **Conclusion:** The prevalence of depressive symptoms among PLWH is more common as one in seven reported depressive symptoms. The study shows attending a secondary health facility, the presence of a history of mental illness in the family, good and average social support, and maladaptive coping mechanisms were associated with depressive symptoms among People Living with HIV. **Recommendations:** From this study improving mental health care, especially in secondary health facilities by increasing resources, strengthening social support systems, and addressing maladaptive coping mechanisms for people living with HIV will help to reduce depressive symptoms among people living with HIV.

298. Ngalya, E.F. (2024). Incidence of tuberculosis disease and associated factors in children living with HIV on antiretroviral treatment and isoniazid preventative therapy in Dar es Salaam, Tanzania: a retrospective cohort study. Muhimbili University of Health and Allied Sciences.

ABSTRACT

Introduction: Tuberculosis (TB) and Human Immunodeficiency Virus (HIV) continue to be major causes of morbidity and mortality among children due to their synergistic effects. Although significant strides have been made in reducing morbidity and mortalities due to HIV through strategies such as the '95-95-95' targets for HIV diagnosis, antiretroviral therapy (ART) initiation, and viral suppression among Children Living with HIV (CLHIV), TB remains a prevalent cause of morbidity and death. Isoniazid Preventive Therapy (IPT) is a critical intervention recommended by the World Health Organization (WHO) for high-risk groups, including CLHIV, to treat latent TB and prevent active TB disease. Despite its established efficacy in adults, evidence supporting IPT's effectiveness in reducing TB disease and mortality in children remains scarce. **Objective:** This study was set to assess the impact of IPT on the incidence of TB disease

and mortality among CLHIV aged 1-15 years who are on ART and attending high-volume Care and Treatment Clinics (CTCs) in Dar es Salaam, Tanzania. **Methodology:** A retrospective open cohort study was conducted using data from the National AIDS Control Program (NACP)—Centre of Treatment and Care (CTC) database. The study included children aged 1-15 who were newly diagnosed with HIV and enrolled in care between January 1, 2019, and December 31, 2022. The cohort consisted of 480 eligible, newly diagnosed CLHIV on ART. Participants were followed up for IPT use of which 268 received IPT and 212 did not receive IPT and assessed for the development of TB disease and mortality outcomes. **Results:** Among the 480 participants, the median follow-up time was 6979.1 for IPT users and 1752.4 person-months for non-users. Most participants were aged 5-15 years (57.9%), with most attending Ilala Municipal Council clinics (46.3%) and Mbagala Rangi Tatu Health Centre (17.3%). A significant portion of the participants had advanced HIV (WHO clinical stages 3 and 4) (63.4%) and were underweight (26.3%). During the follow-up period, 13 CLHIV developed TB, of which 3 were diagnosed microbiologically, 3 clinically, 3 by chest x-ray, and 2 by a combination of chest x-ray and microbiological evidence, most cases occurring within the first six months. The incidence rate of TB showed higher trends among non-IPT users (228.3 cases per 100,000 CLHIV) compared to IPT users (129.0 cases per 100,000 CLHIV); however, these were not statistically significant. IPT usage significantly protected against mortality (cHR = 0.01, 95% CI: 0.001 – 0.08, Pvalue <0.001). Most deaths occurred within the first six months of follow-up (79.6%), with an incidence rate of 1649.6 per 100,000 CLHIV. The overall mortality rate was 639.3 per 100,000 CLHIV over 7664.6 person-months. **Conclusion and Recommendation**: IPT used concurrently with ART significantly reduces the incidence of TB and mortality among CLHIV on ART. The incidence rate of TB was over 40% lower among IPT users, and mortality was reduced by more than 99% in the IPT group. These findings are in alignment with WHO recommendations, and IPT use should be implemented consistently alongside other TB prevention strategies for all eligible CLHIV to reduce TB disease rates and improve survival outcomes effectively.

299. Ngendello, C.A. (2024). Reasons for the use of herbal medicine during pregnancy and labour among women at Mlandizi Health Centre- Kibaha District Council Pwani- Tanzania, Muhimbili university of health and Allied Sciences.

ABSTRACT

Background: Herbal medicines, according to the World Health Organization, are plant-based preparations believed to offer therapeutic benefits. It is estimated that 80% of Africans use herbal medicine, including many pregnant women who turn to these remedies for conditions like infections, nausea, gastrointestinal issues, and labour induction. Despite the prevalence of herbal medicine use, reasons for its use during pregnancy remain underexplored. Previous research in Tanzania has predominantly been quantitative, focusing little on the underlying causes. This study explores the reasons behind the use of herbal medicine during pregnancy among women at Mlandizi Health Centre in Kibaha District Council, Pwani, Tanzania. **Methodology:** A qualitative phenomenological approach was employed in this research to explore the reasons behind the use of herbal medicine during pregnancy. Purposive sampling was used to select 16 pregnant women from Mlandizi Health Centre who attended the maternity complex and had used herbal medicine during their pregnancy. In-depth, semi-structured interviews were conducted, recorded, and transcribed to gather comprehensive insights into their reasons for using herbal medicine. The data were analyzed using thematic analysis, which involved coding and categorizing emerging patterns. Ethical considerations included obtaining informed consent, ensuring confidentiality, and adhering to ethical guidelines for research involving human subjects. **Results:** The study on herbal medicine use among pregnant women uncovered three main themes and eight subthemes: Individual influences include Thinking it is secure from the source, complementing conventional medicine, hastening the process of labour, Spiritual protection of pregnancy and unborn child and Concern for the baby's health. Community and Cultural Influences on Herbal Medicine highlighted Hastening labour and reduce abdominal pain (Therapeutic purpose) and Influence of witchcraft beliefs. Distrust in conventional medicine stems from perceived ineffectiveness and unsatisfactory results. **Conclusion and Recommendation:**

This study highlighted how maternal healthcare choices were influenced by personal beliefs, social connections, community standards, and health system factors. Understanding these influences is essential for developing culturally sensitive interventions to enhance maternal health choices. To address these influences, Health Educators and Community Health Workers should create and distribute culturally relevant materials on herbal medicine, alongside regular workshops. Health facilities, in collaboration with obstetricians and midwives, should revise antenatal care protocols to include herbal discussions and train providers on safety communication. Academic Institutions should conduct multi-site research on herbal remedy safety, while community-led support networks should provide accurate information and foster discussions among pregnant individuals.

300. Ngoloke, T.J. (2024). Experiences and perceptions of HIV counselling and testing among adolescent girls and young women in Mbeya City Council, Tanzania Muhimbili university of health and Allied Sciences.

ABSTRACT

Background: The prevalence of HIV in Tanzania is 4.5%, with Mbeya being the third region with the highest prevalence at 9.3%. Adolescent girls and Young Women (AGYW) are particularly vulnerable to HIV transmission. Despite extensive efforts to decrease HIV prevalence in the country, the risk remains high for AGYW in Mbeya. Previous studies have largely focused on general populations or specific intervention outcomes, leaving a gap in understanding the unique perceptions and experiences of AGYW regarding HIV Counselling and Testing (HCT) services in this high-prevalence region. **Objective:** This study aimed to explore the perceptions and experiences of adolescent girls and young women concerning HIV counselling and testing services in Mbeya City Council, Mbeya. **Methods:** The study adopted a phenomenological qualitative approach. An in-depth interview guide was used to collect data. A purposive sampling was used to select study participants. All interviews were recorded and transcribed verbatim. Data were analyzed thematically. **Findings:** AGYW face some

barriers in accessing HCT services. Key obstacles include poor knowledge, fear, stigma, and misinformation about HIV, leading to reluctance to seek testing services. Societal attitudes, religious beliefs, and gender norms further exacerbate these barriers, hindering access to HCT services. While some AGYW reported positive experiences with HCT services, challenges such as prolonged waiting times, discomfort with older service providers, and concerns about confidentiality were also reported. **Conclusion and Recommendations:** AGYW face multiple challenges when accessing HCT services, including fear, stigma, and misinformation about HIV, compounded by societal norms, religious beliefs, and gender expectations. To enhance access to HCT services for AGYW, it is crucial to address the challenges, and tailor healthcare approaches.

301. Ngowi, E.I. (2024). Adolescent perspectives towards reproductive health concerns during chemotherapy and radiotherapy treatment at Muhimbili National Hospital, Dar es Salaam, Tanzania. Muhimbili University of health and allied sciences.

ABSTRACT

Background: Adolescent age is the peak age of identifying concerns regarding self-identity and sexuality. Concerns about reproductive health are heightened by the potential gonadotoxic effects of chemotherapy and radiation therapy, however they face unique needs and significant challenges including managing their illnesses. Their future life aspirations often exacerbate insecurities particularly concerns on their future reproductive health and potential lifelong toxicities. Adolescents have a limited understanding of fertility health and potential gonadotoxic effects following cancer treatment. Addressing these challenges is vital for their mental health, psychological well-being and ensuring their future childbearing opportunities. Their overall quality of life is of paramount important mostly improving their survivorship. Aim: To explore adolescent perspectives towards reproductive health concerns during chemotherapy and radiotherapy treatment at Muhimbili National Hospital Dar-es-salaam**,** Tanzania. **Methodology:** A qualitative study, with descriptive design conducted at the pediatric oncology unit during clinic

visits. Participants were adolescents aged 15-19 years and were recruited purposively excluding all critically ill or unconscious participants. Data was collected through in-depth interviews in the Swahili language. Interviews with Semi-structured open-ended guided questions were employed and recorded using audio tapes, later transcription was done verbatim and data information was analysed using deductive and inductive content analysis. Ethical clearance was sorted by the Research and Ethical Committee of Muhimbili University of Health and Allied Science (MUHAS). **Results:** A total of 11 participants were enrolled, the majority of them male had secondary education level, participants aged between 15-19 years. Key concerns identified were uncertainties about gonadotoxic effects due to prolonged exposure to systemic therapies, pubertal growth alterations exacerbating concerns about future reproductive ability and they expressed a need for better health knowledge and reassurance about future fertility**. Conclusion:** Findings have shown that adolescents have reproductive health concerns linked to uncertainties on infertility risks following long-term exposure to mostly systemic therapies leading to pubertal disruptions These concerns are often overlooked at the start of treatment, therefore this study adds knowledge to the existing literature on potential reproductive toxicities and also it provides a voice of expression to this affected population. Keywords: Gonadotoxic side effects, Gonad-toxicity, Reproductive disparities, Infertility risks, Reproductive health concerns, gonadal function, Health Care providers.

302. Nhungo, C.J. (2024). Extent and pattern of symptom relief following surgical castration in patients with advanced prostate cancer treated at Muhimbili national hospital: A prospective cohort study. Muhimbili University of Health and Allied Sciences.

ABSTRACT

Background: Advanced prostate cancer leads to many symptoms, notably bone pain and lower urinary tract symptoms (LUTs); however, the degree and duration of pain relief, changes in LUTs severity and underlying factors associated with the extent of symptom

relief remain inadequately understood. Surgical castration has proven effective in relieving both bone pain and urinary symptoms for metastatic prostate cancer patients. Broad **Objective:** To determine the extent and pattern of symptom relief in advanced prostate cancer patients following surgical castration at Muhimbili National Hospital. **Materials and Methods:** We conducted a prospective cohort study over a 6-month period involving men with advanced prostate cancer (PCa) undergoing surgical castration at MNH. The participants were followed for 30 days post-surgery. The International Prostate Symptom Score (IPSS) tool was used to assess changes in lower urinary tract symptoms (LUTs), while a pain rating scale was applied to evaluate changes in bone pain symptoms before and after the surgery. Modified Poisson regression analysis was used to identify factors associated with complete bone pain relief. **Results:** A total of 210 participants with a mean age of 72.3 years were recruited. The LUTs score significantly decreased by 7.1 points after surgical castration (95% CI: 6.4 to 7.7, $p < 0.001$), while the bone pain score showed an absolute reduction of 39.8% (95% CI: 34.7 to 44.9, $p < 0.001$), with more than half of the patients (111, 52.9%) reporting bone pain relief within the first two weeks. Among the factors associated with greater pain relief were being in a marital union (aRR 1.30, 95% CI 1.04-1.64, p=0.024) and normal BMI, which was also linked with pain relief in bivariate analysis (RR 1.20, 95% CI 1.01-1.43, p<0.035). Additionally, patients with severe bone pain before surgical castration were more likely to achieve vi complete pain relief compared to those with mild or moderate pain (aRR 2.24, 95% CI 1.44-3.48, p<0.001). **Conclusion:** Surgical castration improves both bone pain and lower urinary tract symptoms in patients with advanced prostate cancer. Notably, patients experiencing severe bone pain reported resolution of bone pain symptoms within the first and second weeks, respectively, indicating the prompt effectiveness of the surgery on these symptoms. **Key Words:** Prostate cancer, Surgical Castration, Extent of symptom relief, Bone pain.

303. Nicholao, E. (2024). Coronary artery disease in young adult patients undergoing coronary angiography at JKCI: prevalence and risk factors. Muhimbili University of Health and Allied Sciences.

ABSTRACT

Background: Coronary artery disease (CAD) is characterized by decrease in blood flow to the myocardium brought by formation of atherosclerotic plaques in the heart's blood vessels. Premature Coronary Artery Diseases transpires in men and women before the hit 45 and 55 years of age, respectively. CAD is expounded as CAD observed in men aged more than 55 years of age and in women aged more than 65. (9) It is one among the Non-Communicable Diseases that possess a major challenge to the health system worldwide and attains top cause of death globally, contributing to number exceeding 350,000 annually in USA. **Objective**: To determine the prevalence, associated cardiovascular risk factors and coronary angiographic profile among the patient clinically diagnosed with premature coronary artery diseases and scheduled for coronary angiograph at Jakaya Kikwete Cardiac Institute (JKCI). **Methodology**: A prospective cross-sectional study was conducted involving patients with Premature CAD. The study was done for 7 months beginning from september 2023 to march 2024. It was conducted in Dar es Salaam-Tanzania at JKCI, the only cardiac institute in Tanzania. The target population was all patients who were admitted due to clinical diagnosis of CAD and schedulled for coronary angiography at JKCI during the study period. Cases were Consecutively recruited to meet the targeted sample. Patients admitted due to CAD and scheduled for coronary angiography aged 18 and above were enrolled after they had read, understood and sign the consent form**.** A standardized questionnaire administered by researcher and the assistant was used for data collection from the participants and also from the patient hospital record. The following data were collected; social demographic characteristics(sex, age, residency, occupation and education level), physical activities status, history of alcohol use, blood pressure, blood sugar, electrocardiogram finding, family social history, laboratory parameters (total cholesterol, triglycerides and low density lipoprotein,) and angiographic results from CATH-LAB. Participants were categorized as premature CAD encompassing men aged 45 years and below and women with 55 five years and below based on the life expectancy in Tanzania. Matured CAD encompasses participants aged 60 and above. The collected data was entered in SPSS

version 23 and summarized as means and proportions. Multivariate analysis was used for analyzing confounding in all variables with a p value <0.2 in bivariate analysis where those variables with a p value <0.05 was documented as being statistically significant. Logistic regression technique was used to determine the associations of variables. **Results:** The prevalence of the angiographically documented premature CAD was 14.9 %. Participants with PCAD had higher rates of low physical activities (p=0.01), hyperlipidemia (p =<0.00001), obesity (p=0.00001), positive family history of coronary artery disease (p = <0.00001), single vessel disease (p = 0.013), NSTEMI presentation (0.216) and alcohol use (p = 0.018). Logistic regression model indicated that male sex (OR 3.8, C.I 1.43–6.73), obesity (OR 3.3, C.I 1.13–9.63), low level of physical activity (OR 1.72, C.I 1.11–2.66) and positive family history of coronary artery disease (OR 1.97, C.I 1.28–3.03) were associated with the premature CAD. **Conclusions:** The study highlights the alarming prevalence of premature CAD in the country, predominantly affecting men with low physical activity, obesity, and family history of heart disease as key independent risk factors. Controlling modifiable risk factors is crucial to reducing the incidence and impact of premature CAD.

304. Nicholaus, M.K. (2024). Exploring the experience of lifestyle modification Practices among cardiovascular patients attending cardiac clinic at Kilimanjaro Christian medical Centre, Tanzania. Muhimbili University of health and allied Sciences.

ABSTRACT

Background: Cardiovascular diseases (CVDs) are a significant cause of morbidity and mortality worldwide, with lifestyle modification being a cornerstone in their management. Understanding the facilitators and barriers to lifestyle modification practices among CVD patients is crucial for improving patient outcomes and reducing disease burden. **Objective:** This study aims to explore the experience of lifestyle modification practices among cardiovascular patients attending the cardiac clinic at Kilimanjaro Christian Medical Centre (KCMC). **Materials and Methods:** A qualitative

exploratory study design was employed to delve into the experiences of lifestyle behaviors among CVD patients. The study focused on in-depth interviews. The target population included adult CVD patients aged 18 and above attending the cardiac clinic at KCMC, encompassing various CVD conditions. A total of 10 participants were recruited in this study after reaching saturation point. Data collection primarily involved semi-structured interviews supplemented by observational techniques to provide contextual understanding. Thematic analysis was utilized for data analysis, enabling the identification of key facilitators and barriers to lifestyle modifications among CVD patients. **Results:** The study included 10 participants from the study site, with ages ranging from 49 to 68 years. The results comprised of four major themes: 1) **Understanding of lifestyle modification practices:** Participants exhibited varying degrees of understanding, with notable confusion about the benefits of lifestyle changes. 2) **Implementation of lifestyle modifications:** Participants made commendable efforts in dietary adjustments and physical activities, despite facing challenges such as cultural preferences and physical limitations. 3) **Facilitators:** Perceived health benefits, strong social support networks, and guidance from healthcare providers were identified as crucial facilitators. 4) **Barriers:** Significant barriers included lack of consistent motivation, psychological stressors, social and environmental influences, and financial constraints. **Conclusion:** The findings highlight significant gaps in patient understanding of recommended lifestyle changes, often resulting in inconsistent adherence and suboptimal health outcomes. Despite these challenges, participants demonstrated commendable efforts in implementing dietary modifications and engaging in physical activities, albeit hindered by cultural preferences and physical limitations. The identification of facilitators such as perceived health benefits, social support networks, and healthcare guidance underscores the importance of comprehensive care approaches that integrate psychosocial support and patient empowerment strategies. **Key terms:** Cardiovascular diseases, lifestyle modification, patient experience, counseling, Behavioral change.

305. Nicholaus, P. (2024). Functional outcome in adult patients with intertrochanteric fractures who were treated with angled blade plate at Muhimbili Orthopaedic Institute. Muhimbili University of health and allied sciences.

ABSTRACT

Background: Intertrochanteric fractures include the extracapsular fractures extending in the region with dense trabecular bone between greater to lesser trochanter of femur (1). It is estimated that by 2050, sub-Saharan Africa will have a big population of elderly people and as a result an increase in intertrochanteric fracture rates. At Muhimbili Orthopedic Institute (MOI), most of the patients with intertrochanteric fractures are managed by open reduction and internal fixation using angled blade plate. **Objective:** - To determine the functional outcomes of patients with intertrochanteric fractures who were treated with angled blade plate at MOI for period of 6 months. Methods A descriptive prospective hospital-based study was conducted from 1st June 2023 to 31st June 2024 at MOI. A total of 45 adult patients with intertrochanteric fractures treated with angled blade plate were included in the study. A structured questionnaire was used to collect data from study subjects. All eligible participants were systematically examined for following variables: age, sex, pattern of fracture classification, and functional outcome from Harris Hip Score. Data from the questionnaire was entered into a computer software SPSS version 23 template for compilation and analysis and data interpretation. **Results:** A total of 45 adult patients with Intertrochanteric fractures met inclusion criteria and enrolled in this study at MOI during this study period (October 2023 to March 2024). Therefore, 45 patients completed at least 18 weeks follow and were evaluated in this study. Of the 45 patients, 57.4% (27/45) were male. The age ranged from 18 to 100 years with a mean age of62.26 ± 19.19 years. In this study majority of the patients belonged to the age of 58 years and above, occupied more than 60% and male are predominating more than 57% of the study populations. The leading causes of injury was due to simple falls 21 (46.7%), followed by Motor traffic crush 20 (44.4%). The intertrochanteric fractures were classified according to AO classification found more cases 13 (28.9%) were in AO31A2.2 Classification. In this study, 45 participants treated with ABP functionally assessed using Harris Hip Score

Where 80.0% of the Participants had better outcome in which 25(55.6%) scored Excellent. Conclusion: Treatment of Intertrochanteric fractures using angled blade plate results in restoring hip function and improving quality of life. Angled blade plates provide stable fixation and excellent Harris hip scores postoperatively.

306. Njau, A. (2024). Prevalence of HIV retesting and associated factors among perinatal women who tested negative in the first antenatal screening in Kilimanjaro region. Muhimbili university of Health and Allied sciences.

ABSTRACT

Background: In Tanzania we have a total of 1.7 million people living with HIV, with the rate of vertical transmission of HIV being 6.9%. In efforts toward elimination of mother to child transmission (e-MTCT) of HIV WHO recommends that all pregnant women who tested negative during first test to be retested, despite this recommendation the prevalence of maternal HIV retesting in Tanzania is 30.4% which is low. Intervention to address this challenge such as on-the-job training of health care workers was conducted all over the country. Therefore, we determined the post-interventional prevalence of HIV retesting and associated factors among perinatal women who tested negative in the first antenatal screening, which has not yet been explored. **Objectives:** To determine the prevalence of HIV retesting and associated factors among perinatal women who tested negative in the first antenatal screening in Kilimanjaro region, during the year 2024.**Materials and methods:** A facility based cross-sectional study design was conducted involving perinatal women from 37 weeks of gestation to 42 days after delivery who were attending antenatal care, post-natal and Reproductive and child health clinics in Kilimanjaro. Data was collected using a semi-structured questionnaire and information collected involved sociodemographic characteristics, Obstetric history, facility factors and others like stigma and couple HIV testing during first antenatal care visit. Also, information on retesting on third trimester, labor and delivery and, postnatal was collected and HIV results from antenatal care (ANC) card. Data was analyzed by STATA version 15.1 and bivariable and multivariable modified Poisson regression model was used to check for association,

because the anticipated prevalence of maternal HIV retesting was >10%. **Results:** A total of 467 perinatal women were recruited and 47.1% (95%CI 42.5-51.7) of them were retested for HIV with 3.2% of them testing positive. Factors which were associated with HIV retesting were; being counselled and tested for HIV together with partner during the first ANC visit (Adjusted Prevalence Ratio-APR 1.31; 95%CI:1.07-1.60, P=0.01), attending antenatal care in a health facility with trained healthcare workers (HCWs) on maternal HIV retesting (APR 3.56; 95%CI:1.99-6.39, P<0.001), attending only one health facility for ANC (APR 1.21; 95%CI:1.01-1.45, P=0.04), attending more than four ANC visits (APR 2.95; 95%CI:1.71-5.09, P<0.001) and having awareness that a woman should be tested twice during pregnancy (APR 1.57; 95%CI:1.28-1.92, P<0.001). Place of residence showed no association with HIV retesting. **Conclusion:** Prevalence of HIV retesting among perinatal women is still low compared to the national target of 95%. HIV retesting was associated with individual and ANC service-related factors. To be able to achieve the HIV retesting target, Ministry of Health and Stakeholders should ensure that interventions to promote adequate ANC attendance, healthcare workers training and provision of quality ANC with proper HIV retesting counseling are advocated.

307. Njonjo, B.J. (2024). Payment methods for patients on hemodialysis procedures at Muhimbili National Hospital and its impact on adherence to dialysis sessions and routine laboratory testing. Muhimbili University of Health and Allied Sciences.

ABSTRACT

Background: Hemodialysis (HD) is the primary treatment for end-stage renal disease (ESRD), usually conducted three times a week, with each session lasting four hours. In Tanzania, patients rely on government subsidy, health insurance, or out-of-pocket to finance this service. To enhance their quality of life, patients with end-stage renal diseases need to focus on treatment adherence. **Objective:** This study aims to assess how payment methods influence the adherence of ESRD patients to dialysis sessions and routine laboratory testing at Muhimbili National Hospital Materials and Methods: This

was a cross-sectional analytical study designed, conducted among patients undergoing hemodialysis treatment for over a month by May-June 2024 at Muhimbili National Hospital Upanga and Mloganzila units. A total of 221 haemodialysis patients during the data collection period were accessed. Data was collected through structured questionnaires. The analysis was performed using Stata version 18.0. Descriptive statistics summarized numerical variables using mean and standard deviation, while categorical data were presented as frequency and percentage. Bivariate and multivariate Logistic regression models were employed to determine associations between variables. **Results:** Among 221 respondents, the mean age was 47, with a standard deviation of 16 years. The majority (60.6%) were male. Regarding occupation, the majority 63.80% were informally employed. Additionally, more than half of respondents 65.60% had health insurance. Furthermore, 68.3% of participants reported having at least one other chronic disease. Most 91% of respondents know the importance of laboratory tests, and at least once a month, 84.62% of respondents do required tests. Patients with no insurance were less likely to adhere to dialysis sessions (AOR=0.1, 95% CI= 0.002-0.49) compared to patients with insurance. Patients with no health insurance were less likely to adhere to laboratory tests (OR=0.439, 95% CI= O.2-0.4) compared to those with health insurance, who were more likely to adhere. **Conclusion:** In conclusion, there is a clear need for enhanced insurance coverage and targeted interventions that address both financial challenges and adherence issues. Addressing these factors can contribute to more consistent care and better management of ESRD. The study sheds light on the significant role of health insurance coverage in promoting adherence to dialysis sessions and routine laboratory testing.

308. Nkondo, H.J. (2024). Bacterial etiology and their antimicrobial susceptibility patterns of wound infection at Muhimbili Orthopaedic Institute (MOI). Muhimbili University of Health and Allied Sciences.

ABSTRACT

Background: Wound infection is a common complication among orthopedic and trauma patients. It is associated with increased hospital stays and healthcare costs. Wound infections caused by resistant bacteria are on the rise which makes empiric treatment more difficult at Muhimbili Orthopedic Institute. There is little information on bacterial a etiology, antimicrobial susceptibility patterns, and factors associated with multidrug resistance in bacteria causing wound infections in orthopedic and trauma patients. **Objectives:** This study intended to determine the bacterial a etiology, antimicrobial susceptibility patterns, and factors associated with multidrug resistance bacterial causing wound infection in orthopedic and trauma**. Methodology:** This study was a cross-sectional study that was conducted at Muhimbili Orthopedic Institute. Wound swabs were collected from patients with wound infection, wounds were cleaned with normal saline and two swabs were used to collect pus from the base part of the wound. Bacteria were isolated using blood and MacConkey agar plates. Antibiotic susceptibility testing was performed and interpreted using the Clinical and Laboratory Standard Institute guideline (CLSI M100 2023). Quality control was done using*E. coli* (ATCC 25922), *P. aeruginosa* (ATCC 27853), and *Staphylococcus aureus* (ATCC 25923. Data collection form was used to collect demographic and clinical information of patients. Binary logistic regression was used to determine factors associated with infections caused by antibiotic-resistant bacteria which were previous use of antibiotics, previous hospitalization and number of isolates per patient. **Results:** A total of 107 participants were enrolled on this study. The majority of the participants 75(70.1%) were male. the age distribution of the participants ranged from 4-80 years whereby the majority of participants were 39 (36.4%) aged ≥ 45years the mean age (± SD) was 40±14, the median age in years (IQR) was 36 (29, 48) and mode age was 34. 39 (36.4%)of the enrolled patients. Culture yields a total of 181 bacteria isolated from orthopedics wounds. *Pseudomonas aeruginosa* (24.3%), *Acinetobacter spp* (5.2%), *Klebsiella pneumoniae* (4.6%) and *Escherichia coli* (4.0%) predominating. *Staphylococcus aureus* (23.1%) and *coagulase-negative staphylococci* (CoNS) (11.6%) accounted for most of the gram-positive infections. The prevalence of methicillin-resistant *Staphylococcus aureus* (MRSA) was 87.5%. However, a low prevalence of extended-spectrum beta-lactamase production (15.2%) was noted among Enterobacter

ales. Gram-negative infections were highly resistant to ceftazidime, ceftriaxone, ciprofloxacin, and trimethoprim-sulfamethoxazole, while *Staphylococcus aureus* was highly resistant to penicillin (100%) and cefoxitin (87.59%), *CoNS* infections were also resistant to penicillin (95.0%), cefoxitin(80.0%), clindamycin (70.0%) and trimethoprim-sulfamethoxazole (70.0%). The data revealed that the use of antibiotics (cPR: 1.17, 95%CL: 0.88-1.55, P=0.283) and hospitalization (cPR: 0.98, 95%CI: 0.77-1.23, P=0.837) had no a statistically significant as the predicted factors on MDR prevalence. C**onclusion:** The majority of orthopedic wound infections are caused by multidrug-resistant pathogens. Timely identification of antibiotic susceptibility patterns is vital to preventing thespread of infections.

309. Nkouabi, J.I. (2024). Factors associated with two years retention in care among Adolescents living with HIV in Dodoma Municipality. Muhimbili university of health and Allied Sciences.

ABSTRACT

Background: Retention in HIV care services is an essential requirement for adherence to antiretroviral therapy and viral suppression, to avoid significant Human Immunodeficiency Virus-related illness and death. The United Nations Programme on HIV and AIDS 95-95-95 strategy outlines the goal of retaining 95% of individuals enrolled in HIV care. However, achieving this target has been challenging particularly in adolescents aged 10-19 years. To attain the objective of ending the AIDS epidemic by 2030, it is important to understand the demographic and clinical factors that are associated with adolescents' retention in care. **Objective:** To assess the factors that are associated with retention in care among adolescents living with HIV/AIDS in Dodoma Municipality. **Methodology:** This was a retrospective cohort study using data from the Care and Treatment Clinic database. The study involved adolescents between the ages of 10 and 19 living with HIV who were registered and attended CTC services in 5 clinics in Dodoma Municipality between July 2014 and June 2023. The key outcome variable was retention in care. Multivariable modified Poisson regression was used to examine the

independent factors associated with retention in care. Relative risks (RR) and 95% confidence intervals (95% CI) are reported. **Results:** A total of 291 records of adolescents were included; 206 (70.8%) were females**.** The proportion of adolescents who were retained in care over a 6, 12, and 24-months period was found to be 82.8%, 77.3% and 72.9% respectively. Adolescents aged 10 to 14 years (adjusted RR= 1.49; 95% CI 1.29-1.74) and those initiated on Dolutegravir based regimen (adjusted RR=1.34; 95% CI 1.16-1.54) were more likely to remain in care at 24 months. **Conclusion:** A two-year retention rate among adolescents living with HIV in Dodoma Municipality was lower than the UNAIDS 2030 target of 95%. Age and ART regimen at initiation were associated with retention in care. Tailored interventions need to be implemented to improve retention in care especially among older adolescents aged 15 to 19 years.

310. Nnyiti, N.M, (2024). Clinical profile, indication and outcome of patients who underwent transsphenoidal pituitary surgery at Muhimbili National Hospital and Muhimbili Orthopedics Institute. Muhimbili university of health and Allied Sciences.

ABSTRACT

Background: Transsphenoidal pituitary surgery is an endoscopic approach to the pituitary gland through the sphenoid sinus for removal of pituitary tumors. The aim of this surgery is to correct any pituitary hormone over secretion, eliminate the mass effect of the tumor, decompress the visual pathway, reduce the risk of tumor recurrence and get histological diagnosis of pituitary tumors. Like any other surgery, there are complications associated with it. **Objectives:** To assess the clinical profile, indication and outcome of patients who underwent transsphenoidal pituitary surgery at Muhimbili national hospital and Muhimbili orthopaedic institute. **Methodology:** A retrospective cross-sectional study was conducted which included all the patients who underwent transsphenoidal pituitary surgery since the initiation of the approach in 2018. By using a structured checklist & accessing the patient database, demographic information, signs & symptoms at presentation, indication and outcome of the transsphenoidal pituitary surgery was

acquired. All of the findings were recorded in a data collection sheet, data was analyzed using Statistical Package for Social Science software version 23, and the Chi-Square and Fisher's exact test were used to assess the association of variable. A confidence interval of 95% was used, and a P-value of <0.05 was considered significant. **Results:** A total of 40 patients were enrolled in the study whereby majority were 41-50 years (30%) and females accounted for 57.5% of the patients with a female to male ratio of 1.3:1. Vision loss was the common complaint seen in 87.5% of the patients followed by headache which accounted for 85%. Some patients presented with secretory adenomas which accounted for 17.5%. The most common indication for surgery was progressive mass effect seen at 78.4% of patients followed by hormonal control seen in 13.7% of patients. Symptom relief post-surgery was seen in 85% of patients and hormonal control was seen in 71.4% of patients. Patients who developed diabetes insipidus and hypopituitarism were observed to be 12.5%, whereby, cerebrospinal fluid leak as an intra-op or early complication was seen in 7.5% of individuals and 2.5% had it as a late complication. **Conclusion:** Transsphenoidal pituitary surgery is a novel/modern approach to pituitary tumors in Muhimbili National Hospital and Muhimbili Orthopedic Institute. Most patients were seen in the middle age and females accounted more than males. Patients presented with various clinical complaints whereby vision loss and headache accounted for majority of the complaints. The most common indication was due to mass effect. Majority of patients reported symptom relief and hormonal control post-surgery whereby the most common complication was diabetes insipidus and hypopituitarism. Therefore, this study helps on shedding light as well as contribute to the existing knowledge of surgeons as well as the medical community to improve outcomes of these patients.

311. Nsanya, A.M. (2024). Proportion, types of ontological disorders, and its relation with viral load among adult HIV patients receiving antiretroviral therapy services at Tumbi Regional referral hospital. Muhimbili University of health and allied sciences.

ABSTRACT

Background: Otological disorders are among the infections a person living with human immunodeficiency virus may encounter during his lifetime due to immunosuppresion. They may be the first presentation in acquired immunodeficiency syndrome patients hence alerting a clinician on the status of the body immunity. Limited research has been conducted to comprehensively assess these disorders. **Objectives:** The aim of this study was to determine proportion, types of ontological disorders and its relation with viral load among adult HIV patients receiving antiretroviral therapy services at Tumbi Regional Referral Hospital. **Methodology:** This cross-sectional, hospital-based study was conducted over six months, August 2023 to January 2024 involving adult HIV patients aged 18 and above at Tumbi Regional Referral Hospital. Questionnaire was used to collect demographic data and ontological symptoms. Ear examinations was performed using an otoscope and tuning fork for hearing loss. The relation between ontological disorders and viral load was analyzed using SPSS version 23 **Results:** This study involved 111 adult human immunodeficiency virus patients and proportion of ontological disorders in the study population was found to be 48.6%, with age range of study participants from 23-73 years and median age of 47 years. Female to male ratio was 3.4:1. The most common ontological disorder observed was wax impaction 30.5% followed by otitis externa and tinnitus each with 26.4%. The least one were myringosclerosis and pre auricular swelling each 1.4%. There was a noted association between viral load and presence of ontological disorder; more in the patients with 40-1000 copies/ml of viral load. **Conclusion:** The burden of ontological disorders was observed to be 48.6%. Wax impaction was seen in 30.5% followed by otitis externa and tinnitus each with 26.4%. The least one was myringosclerosis and pre auricular swelling each with 1.4%. Elevated viral load count was found to be associated with presence of these disorders. **Recommendations:** Raising awareness of ontological disorders among healthcare workers is vital for timely referrals to ear, nose and throat clinic. Also promoting antiretroviral therapy adherence which helps to reduce these disorders. Future research should include larger sample sizes and longer study periods to strengthen the findings.

312. Ntibabara, S.S. (2024). Factors associated with below 60% target of Malaria rapid diagnostic testing in different Malaria endemic strata of mainland Tanzania from 2021 to 2023. Muhimbili University of Health and Allied Sciences.

ABSTRACT

Introduction: The global burden of malaria in 2022 totalled 249 million cases and 60,800 deaths, with Tanzania among the top ten countries for both cases and mortality rates. The World Health Organization aims to reduce malaria incidence and mortality by 90% from 2015, emphasizing global improvements in diagnosis and treatment in 2030. Tanzania's Ministry of Health has developed a 2021-2025 strategic plan where it targets 60% of individuals visiting health facilities in Mainland Tanzania are tested by 2023 and 75% by 2025. However, the national midterm review revealed achieving 48% from 60% of malaria testing rate target. This study investigates factors influencing health facilities below 60% Malaria Rapid Diagnostic Test (mRDT) testing rate target to aid effective planning by the National Malaria Control Program and partners in enhancing access to testing services. **Objectives:** We determined proportion and factors associated with mRDT testing rate below 60% in public health facilities across different endemic strata in Tanzania from 2021 to 2023 Methodology A secondary data analysis was conducted in six simple randomly selected regions of the Tanzania mainland. Data were collected from the District Health Information System (DHIS2) and Electronic Logistics Management System (eLMIS) from 2021 to 2023. The 99.99% power of the study was calculated using the G*Power 3.1.9.7 calculator using two independent proportions. The Chi square was used to compare significance differences of the categorical variables‟ proportions. Bivariable and Multivariable analysis was done using a Modified Poisson regression to determine the associations of factors with the mRDT testing below 60%. Factors with P-value less than 5% at 95% CI was considered to be statistically significant. **Results:** v Of 1318, 1448, and 1553 health facilities (HFs) with complete malaria testing reports from the six selected regions in 2021, 2022, and 2023 respectively, 52.3% (95 % CI: 49.6%-55.0%), 57.4% (95% CI: 54.8%-59.9%), and 65.6% (95% CI:63.1%-67.9%) did not achieve 60% mRDT testing rate over those three years. Over 85% of health facilities

found from low and very low endemic areas did not achieve 60% mRDT testing rate. The mRDT testing decreased from 58.5% to 55.4% and to 53.0% for the year 2021, 2022 and 2023 respectively. Hospital level HFs were 1.61, 2.16 and 1.49 times likely not to attain the 60% mRDT testing rate for the year 2021,2022 and 2023. Health facilities in high endemic areas have likely reduced risk of 0.27, 0.45 and 0.63 times of not attaining the 60% mRDT testing rate. **Conclusion:** The study findings highlight a rise in number of health facilities failing to reach the 60% mRDT testing rate target from 2021 to 2023, accompanied by a continuous decline in mRDT testing rates. Overstocked mRDT supplies were observed across all endemic areas in both 2022 and 2023. Significant disparities were noted in the proportion of trained staff performing mRDT testing between regions with very low endemicity and high-endemic areas. Hospital-level facilities consistently struggled to achieve the 60% testing ratio, while those in moderate and high-endemic areas showed improvement. Recommendation Strengthening Ministry of Health supervision over hospital-level facilities. Expanding implementing partner coverage to under supported regions. The Medical Department Store (MSD) to optimize mRDT distribution in all endemic strata. The health facilities to enforcing malaria testing guidelines, and enhancing training for staff in low-endemic areas.

313. Nyakiha, M. (2024). Magnitude, associated factors, and short-term outcomes of gastric cancer among patients undergoing endoscopy at Muhimbili National Hospital. Muhimbili University of Health and Allied Sciences.

ABSTRACT

Background: Gastric cancer is a malignancy that typically arises from the stomach's inner lining and remains one of the most prevalent and lethal cancers worldwide. In Tanzania, approximately 92% of patients present with advanced-stage disease (Stage III or IV), largely due to delays in diagnosis. These delays were attributed to limited public awareness, insufficient diagnostic resources, and prolonged waiting times for endoscopy and biopsy confirmation. **Objective:** Was to determine the magnitude, endoscopic findings, histopathological findings, associated factors, and short-term outcomes of

gastric cancer among patients undergoing endoscopy at Muhimbili National Hospital. **Methodology:** This hospital-based descriptive cross-sectional study, with a 3-month follow-up component, was conducted over six months (September 2023 to February 2024) at the Muhimbili National Hospital (MNH) Gastroenterology and Hepatology Center (Upanga) and the Endoscopy Unit (Mloganzila). The study included adults aged 18 and above who were consecutively enrolled. Data were collected via face-to-face questionnaires, endoscopic observations, and histopathology results traced from the JEEVA system. *Helicobacter pylori* IgG antibody testing was performed on-site. Collected information included sociodemographic details, clinical history, and comorbidities. Participants diagnosed with gastric cancer were followed up for three months to monitor short-term outcomes, including treatment complications, hospitalization duration, and mortality. Data analysis was performed using SPSS version 23. Associations between categorical variables were assessed with chi-square or Fisher's exact tests, and logistic regression evaluated the effect of multiple variables on gastric cancer occurrence, with significance set at $p < 0.05$. \Ethical clearance was obtained from the MUHAS Research Ethics Committee, and permissions were granted by MNH administration. **Results**: A total of 950 individuals were approached, of whom 870 met the inclusion criteria and were enrolled in the study. The mean age was 53.4 years (±17.4), with 42.5% aged 60 and above. The prevalence of gastric cancer was 8.9%, with most cases being adenocarcinomas located in the gastric antrum and presenting as ulcerative lesions. Significant factors associated with gastric cancer included cigarette smoking (OR = 2.96, 95% CI = 1.76–4.98, $p < 0.001$), poor food preservation practices (OR = 2.49, 95% CI = 1.38–4.50, $p = 0.002$), underweight status, and positive *H. pylori* serology (OR = 3.69, 95% CI = 2.02–6.75, $p < 0.001$). Short-term outcomes showed a high 90-day mortality rate of 45.5%, with 88.7% of patients receiving palliative care and only 9.1% eligible for curative treatment. **Conclusion:** This study found a high prevalence (8.9%) of gastric cancer and elevated 90-day mortality among patients undergoing OGD at Muhimbili National Hospital. Gastric cancer was mainly associated with *H. pylori* exposure, cigarette smoking, and poor food preservation practices. The findings underscore the need for enhanced early detection and targeted prevention

strategies, focusing on modifiable risk factors to improve outcomes in this high-risk population.

314. Nyalagu, S.M. (2024). Uptake of electronic logistic management information system of anti-tuberculosis commodities at public health facilities in Kilimanjaro Region, Tanzania. Muhimbili university of health and Allied Sciences.

ABSTRACT

Background: Efficient management of Anti-TB commodities is crucial for sustaining an uninterrupted supply chain. Utilizing an electronic health system like the Electronic Logistic Management Information System (eLMIS) is essential for improving supply chain performance, ensuring adequate quantities, and enhancing healthcare outcomes. Tanzania has recently adopted eLMIS for managing Tuberculosis (TB), aiming to address challenges of the conventional paper-based system by enhancing data visibility and quality. However, there's limited literature on its uptake in healthcare facilities. **Objective:** This study aimed to assess the uptake of the Electronic Logistic Management Information System (eLMIS) for anti-TB commodities in public health facilities within the Kilimanjaro region of Tanzania. **Materials and methods:** This cross-sectional study utilized both quantitative and qualitative methods. For quantitative analysis, the study targeted public health facilities in Kilimanjaro specifically dedicated to managing TB. The focus was on assessing the uptake of eLMIS, crucial for inventory tracking and stock monitoring of anti-TB commodities. For qualitative insights, pharmacists and laboratory technicians directly involved in anti-TB commodity management and eLMIS utilization were interviewed. Data collection was done using data abstraction form and interviewer guide. Quantitative data was analyzed using stata 18, and for qualitative, step-by-step content qualitative analysis approach was utilized. **Results:** A total of 19 public health facilities were included in the analysis. All the surveyed facilities had established eLMIS, however only 37% of the facilities utilized eLMIS for both pharmacy and lab commodities management, while 63% only used it for lab commodities. The findings from this study indicated varying degrees of availability of anti-TB commodities across

pharmacy and laboratory items, with notable stock outs observed within 12 months, particularly for essential medications like Isoniazid (INH) 100mg and Gene Xpert MTB/RIF. The study on factors affecting the uptake of the eLMIS for anti-TB commodities in Public Health Facilities. (PHF) at the study site identified several significant challenges. These challenges included system disturbances, technical issues like poor internet connectivity and data input errors, inadequate user training, integration system challenges, and user perceptions and attitudes. **Conclusion:** The study revealed that while a considerable proportion of public health facilities in the Kilimanjaro region have adopted the eLMIS for anti-TB commodities management, its utilization remains suboptimal. The availability of anti-TB commodities varied across pharmacy and laboratory. Challenges affecting the uptake of eLMIS included system disturbances, technical issues such as poor internet connectivity, inadequate user training, integration system challenges, and user perceptions. Variability in availability of Anti –TB commodities may have caused low detection of TB patients also emerging of Multi drug resistance Tuberculosis due to stock outs of anti TB commodities. Addressing these challenges is imperative for enhancing system functionality and optimizing inventory management in public health facilities, thereby ensuring the consistent availability of anti-TB commodities for effective tuberculosis management

315. Nyanana, A.J. (2024). Factors associated with late- stage presentation of cancer among patient admitted at Muhimbili National Hospital. Muhimbili University of Health and Allied Sciences.

ABSTRACT

Background: Cancer is a major public health issue affecting both developed and developing countries, causing 7.9 million deaths annually. In 2020, Tanzania reported 73,303 cases, with a high percentage of late-stage diagnosis, impacting treatment options, cost, and survival rates. Late presentation of patients, often due to patient behavior and characteristics, is a significant concern in many regions, including East African countries. The current study aims to identify factors related to late presentation among cancer

patients admitted to Muhimbili National Hospital (MNH), in Dar es Salaam. **Objective:** To determine the factors associated with late-stage presentation among cancer patients who admitted at MNH. **Methodology:** The study used a quantitative cross-sectional design to assess factors associated with late-stage cancer presentation in 385 Muhimbili National Hospital patients. (SPSS) version 27 was used to analyze the data after it was imported from Microsoft Excel 2019. A 95% confidence level and P-value <0.05 was used to indicated a significant association between individual and health system factors linked to late presentation in both univariate and multivariate regression analysis. **Results: S**tudy participants had an average age of 42.64 years (SD=20.74). The study found that 93.2% of cancer patients sought immediate medical attention after noticing early symptoms, with 40.6% believing symptoms were not serious. The average time from symptoms to diagnosis was 24 months (SD=38.3 months), with 18 months (SD=19.61months) for therapy and 21 months for management. Out of 385 patients Y(14.3%) visited traditional healers. **Conclusion and recommendation:** The study highlights the need for improved cancer awareness, early detection programs, and enhanced healthcare infrastructure, with logistical delays and spiritual concerns causing patients to shift to traditional healers.

316. Nyanda, S.S. (2024). Placenta abnormalities; Sonographic patterns and associated factors in pregnancy at Muhimbili National Hospital. Muhimbili University of Health Allied Sciences.

ABSTRACT

Background. Placenta pathologies are often overlooked and receive attention only when complications arise. In most settings, placenta reporting is often limited to the location and presence of calcification. A complete fetal ultrasound should include a full assessment of the placenta for any possible abnormalities. Placental diseases range from abnormal morphology, size, location, extent, and degree of placentation to abruption and the presence of rare placental neoplasms of benign or malignant nature. Familiarity with the placenta's normal and abnormal imaging appearance is necessary for the radiologist

and physician. Abnormalities of the placenta will lead to poor maternal and fetal outcomes. Objective: To demonstrate the sonographic patterns and proportions of placenta abnormalities and their associated factors among pregnant women at Muhimbili National Hospital (MNH). **Methodology:** A hospital-based cross-sectional prospective study was carried out between January and March 2023 at MNH. Real-time placenta ultrasound findings were taken and documented from all pregnant women who met the inclusion criteria using a standard ultrasound machine with similar optimal settings on each visit until the sample size was reached. A bivariate analysis was performed to find placenta abnormalities associated factors **Results:** A total of 220 pregnant women were enrolled in a study. The prevalence of placenta pathologies was 32.7 %, 27.3%, and 35.4 % for placenta morphology, placenta parenchyma, and placenta maternal surface, respectively. Placenta pathologies, excluding those related to location and abruption, were overlooked in 200 (91.7%) pregnant women. Pathologies related to placenta parenchyma and morphology had a strong association with chronic illness and chronic medication ($p < 0.001$). Conclusion: There was a high prevalence of placenta abnormalities. Placenta abnormal patterns should be evaluated, documented, and followed up in subsequent scans to improve fetal and maternal outcomes. **Recommendation:** A study with a la nple size will add more value. A Standardized placenta reporting format based on th- -- -rted placenta patterns should be established to ensure practitioners examine and report all possible placenta pathologies

317. Nyigo, H. (2023). Livestock anthrax vaccination coverage and its associated factors among livestock farmers in Momba district council, Tanzania. Muhimbili university of Health and Allied Sciences.

ABSTRACT

Background: Anthrax, caused by *Bacillus anthracis,* poses significant risks to both human and animal health. Despite the availability of effective vaccines, livestock anthrax vaccination coverage remains critically low in Momba District Council, Tanzania, leading to recurrent outbreaks. This study aimed to determine livestock anthrax

vaccination coverage and factors contributing to low uptake among farmers in Momba District Council. **Methodology:** A community-based cross-sectional study was conducted from May to June 2024 using a structured questionnaire administered to livestock farmers in Momba District Council. Participants were selected through a multistage cluster sampling technique where a district was first divided into clusters of wards followed by clusters of villages, then study participants were randomly selected, ensuring a representative sample. Data on demographic factors, socio-economic status, and barriers to vaccination were collected. Descriptive statistical analysis was performed for the demographic factors, followed by modified Poisson regression to identify significant factors associated with low livestock anthrax vaccination coverage. **Results:** A total of 435 livestock farmers were included, with a median age of 41 years IQR (34-52 years). The majorities were male 404/435 (92.87%) and had low education levels: 48.97% had primary education and 45.75% had no formal education. The median household size was 8 people (IQR 6-13). The overall anthrax vaccination coverage was 32.8%, with 37.8% (11698/30,968) for cattle, 22.3% (2125/9534) for goats, and 18.4% (712/3862) for sheep. Factors associated with low anthrax vaccination coverage included lack of information about vaccination schedules (adjusted prevalence ratio [aPR] 1.41, 95% CI 1.18-1.68), having primary education (aPR 0.74, 95% CI 0.67-0.94) compared to no formal education, household size with 1-10 members (aPR 0.82, 95% CI 0.72-0.94) compared to households with ≥40 members, and seasonal migration of livestock (aPR 0.73, 95% CI 0.64-0.84) compared to those without seasonal migration in search of pasture **Conclusion:** Momba District Council livestock anthrax vaccination coverage is below the 70% recommendation by the World Organization of Animal Health, posing a public health risk. A One Health approach, including regular training, timely vaccination schedules, and stronger collaboration between veterinarians and human health officers, is recommended to rise up the livestock anthrax vaccination coverage.

318. Nzowa, B. (2024). Comparing the perioperative outcome of monopolar transurethral resection for large and medium-sized prostates at Muhimbili National

Hospital: A six-month cross-sectional study. Muhimbili University of Health and Allied Sciences.

ABSTRACT

Background: Benign Prostatic Hyperplasia, BPH, is a disease of older age and TURP has proved to be the gold standard in surgical management for severe LUTS due to BPH in medium-sized prostate glands weighing 30g to 79g. There are several complications related to TURP that occur proportionally with the increasing size of the prostate gland. Therefore, open prostatectomy is generally indicated for large prostate glands that are ≥80g that require surgical intervention. Nevertheless, surgeons' experience and patients' need for a less invasive operation have made it possible for TURP to be performed in large prostate glands exceeding 80g with relatively good outcomes. **Objective:** To compare the outcome of TURP in patients whose prostate gland sizes are ≥80g to those who have medium-size prostate glands (30g-79g) undergoing TURP at MNH. **Methodology:** A six-month cross-sectional study was conducted at Muhimbili National Hospital between November 2023 and April 2024. Convenience sampling was employed in which all patients who underwent TURP with prostate gland sizes of at least 30g and consented to participate were enrolled in the study. Patients were observed closely while collecting data until a formal hospital discharge. Data collected included patient demographics, the patient's chief complaint, prostate size by ultrasound and DRE grading, indications for TURP, comorbidities, resection time, and perioperative outcome. During data analysis, the patients were assigned into two groups according to the size of their prostate glands: those with medium-size prostate glands (30g-79g) and those with large prostate glands (≥80g). The two groups were compared for the outcome of TURP. A chi-square test was performed to determine the significance of the proportions. To examine the association between prostate size and TURP outcome, bivariate and multivariate logistic regression were employed. Odds Ratio, OR, and P-Value set at $p < 0.05$ were measures of association. **Results:** A total of 132 men who underwent TURP and met the criteria, were enrolled in this study. The majority of participants (n=108, 81.8%) were above sixty years of age. Of these men, 92 (69.3%) participants had

medium-size prostates, and 40 (30.7%) had large prostates. A significant proportion of participants from the large prostate size group (37.5%) developed minor TURP complications as compared to participants from the medium-size prostate group (14.1%) who developed minor TURP complications (p = 0.003). Prostate size showed a strong association with TURP outcome on the multivariate analysis (aOR=3.6, p = 0.006). **Conclusion:** In both groups of patients, no major TURP complications were recorded. This study has shown a higher risɔf perioperative minor complications of TURP performed on patients with large prostate glands as compared to those with medium size prostates at Muhimbili National Hospital.

319. Octavian, B. (2024). Evaluating the process implementation fidelity of oral pre-exposure prophylaxis (prep) framework in Kinondoni Municipal Council, Tanzania. Muhimbili university of health and Allied Sciences.

ABSTRACT

Background: Effective implementation of Oral Pre-Exposure Prophylaxis (PrEP) has been increasingly proved through clinical trials and PrEP demonstration projects to be highly potential in reducing risk to new HIV infection among key populations. It is on the basis of these achievements that Tanzania started developing Oral PrEP framework in 2018. However, there is limited information on how well the framework is being implemented in Tanzania, and the fidelity of the implementation process of the PrEP framework, is not well understood. It is this gap in knowledge that this study intended to fill. **Objective:** To evaluate the process implementation fidelity of the oral pre-exposure prophylaxis framework in Kinondoni Municipal Council, Tanzania. **Methodology:** An exploratory cross-sectional study was conducted using qualitative and quantitative data collection methods. Qualitative data were collected by using in-depth interviews among healthcare providers while in quantitative data, a questionnaire was used to collect data among Key Populations. A convenience sampling procedure was considered in selecting KPs using PrEP services. A purposive sampling procedure facilitated the selection of healthcare workers. The sample size of 10 key informants were used in qualitative data,

while in quantitative data collection, a sample size of 135 participants was involved. Descriptive statistics using SPSS was used in analyzing quantitative data while and thematic approach was used to analyze qualitative data. **Results:** The study found that the process of PrEP delivery in Kinondoni Municipal Council comprises the identification of eligible PrEP candidates, PrEP initiation, adherence monitoring, and continuation and discontinuation of PrEP among KPs. PrEP use as a method of preventing HIV was significantly associated with willingness to accept and take a pill every day among KPs. Moreover, the study found barriers facing the implementation fidelity of the oral PrEP, including low awareness among community members, misconception and stigmatization, and non-compliance among PrEP users. **Conclusion and recommendation:** The study confirms that Kinondoni Municipal Council PREP service is largely delivered per the National oral Pre-exposure prophylaxis implementation framework stipulated under the guideline effect. Among other things, it is recommended that all health facilities providing PrEP should integrate community and facility-based PrEP services.

320. Omar, N. (2024). Nurses' utilization of non-pharmacological pain management interventions and associated barriers at Intensive Care Units in Zanzibar. Muhimbili University of Health and Allied Sciences.

ABSTRACT

Background: Managing pain in intensive care units is essential given its high prevalence and potential negative impacts on health of the patient. Non-pharmacological interventions are acknowledged as useful in this regard or alternatives to pharmacotherapy in managing pain, offering fewer side effects and potential reductions in drug usage. However, their utilization in critical care settings remains limited due to various barriers. To enhance patient care and maximize pain management results in Intensive Care Unit it is crucial to comprehend their use and address any obstacles. **Objective:** To investigate the existing practices of Zanzibar Intensive Care Unit nurses with regard to the use of non-pharmacological interventions for pain management and to pinpoint the barriers that prevent these interventions from being used as effectively as

possible **Method:** A cross-sectional quantitative methodology was employed to gather data on nurses' practices in Zanzibar Intensive Care Unis involving 79 nurses working across 4 Intensive Care Unit's and one High Dependence Unit across Zanzibar. Questionnaires were administered to the participants, to oversee current practices and challenges faced in implementing non-pharmacological pain relief methods. Data was analyzed using the SPSS 25.0 software with the help of descriptive statistics as well as inferential statistics. **Results**: The study involved 79 Intensive Care Unit nurses in Zanzibar, revealing that 57% (45) utilized non-pharmacological pain management interventions, primarily repositioning (71.1%) and creating calming environments (60.0%), while 43% (34) did not employ these methods. Key barriers included inadequate staffing (94.9%, 75 respondents), heavy workloads (65.8%, 52), and multiple responsibilities (68.4%, 54). Higher education levels positively influenced non-pharmacological pain management usage, with nurses holding Bachelor's degrees having an adjusted odds ratio (AOR) of 2.32 (p=0.045). Additionally, lower staff numbers were associated with increased Non-Pharmacological Pain Management utilization (AOR=2.67, p=0.036), highlighting the need for improved training and resource allocation to enhance pain management practices in the Intensive Care Unit. **Conclusion:** The findings highlight a moderate adoption of non-pharmacological pain management strategies among Intensive Care Unit nurses in Zanzibar, significantly influenced by education and staffing levels. Addressing barriers such as inadequate staffing and enhancing Non-Pharmacological Pain Management training could improve the integration of these interventions.

321. Onah, G. (2024). Formulation and evaluation of *in vitro* antifungal activity of *senna alata*-based cream and ointment for management of ringworms. Muhimbili University of Health and Allied Sciences.

ABSTRACT

Background: Ringworm is a common skin infection caused by fungi known as dermatophytes. It is a worldwide public health problem, especially among schoolchildren

in rural settings and low-income earners in urban settings. **Aim of the study:** This study objective was to formulate and evaluate the *in vitro* activity of *S. alata*-based ointment and cream for ringworm treatment. **Materials and Methods:** This was an experimental study in which *S. alata* leaf was extracted with water, ethanol and oils. The extracts were tested for antifungal activity against standard laboratory strains of *Trichophyton interdigitale, Trichophyton rubrum,* and *Microsporum gypseum* using agar well diffusion method for the ethanol and water extracts and broth micro-dilution method for oil extracts using clotrimazole as a positive control and distilled water and oil as negative controls. The *in vitro* antifungal activity of the formulated cream and ointment was conducted using the well diffusion method. **Result:** Ethanol extract at 500 mg/ mL, 50µL showed antifungal activity with inhibition zones of 12 ± 0 mm, 14 ± 0 mm, and 7 ± 0 mm against *T. interdigitale, T. rubrum* and *M. gypseum* respectively. Water extract had inhibition zone of 12 ± 2.8, 8 ± 0 and 9.5 ± 0.7 on *T. interdigitale, T. rubrum* and *M. gypseum* respectively. Only ethanol extract was active at 400 mg/mL with inhibition zone of 12 ± 0 mm against *T. interdigitale* and 14 ± 0 mm on *M. gypseum.* Sunflower oil extract showed activity at 3.125%, 12.5%, and 25% against *T. rubrum, T. interdigitale,* and *M. gypseum* respectively. *Senna alata* cream was more active with inhibition zone of 17.5 ± 0.7 mm against *M. gypseum* compared to Clotrimazole, (the positive control drug), that produced similar zone of inhibition (17 ± 0) as the cream against *M. gypseum*. **Conclusion**: The ethanolic extract was active and remained active after incorporation into the pure cream with comparable antifungal activity to the control standard drug (clotrimazole). The oil extract exhibited antifungal activity against the tested dermatophytes but oil extract ointment shows little or no activity. Therefore, *S. alata* cream and oil extract possess antifungal activity and could contribute towards discovering new treatment options for ringworm. **Recommendation:** Further studies are required to evaluate the cream effectiveness and toxicity *in vivo* model, explore antifungal assay of oil extract ointment by microdilusion method and perform phytochemical analysis of oil extract to determine its antifungal active components.

322. Orotta, M. (2024). Hepatitis B virus: prevalence, vaccination coverage and immune responses to immunization among healthcare workers at Muhimbili National Hospital. Muhimbili University of Health and Allied Sciences.

ABSTRACT

Background: HBV vaccine coverage among HCWs at MNH seven years ago was only 33% and this resulted into campaigns for vaccination. Therefore, it is timely to study vaccine coverage after among HCWS at MNH. **Objectives:** To determine the prevalence of HBV infection, vaccination coverage, and immune response to the HBV vaccine among healthcare workers HCWs at Muhimbili National Hospital in Dar es Salaam (MNH). **Methodology:** This cross-sectional study was conducted among HCWs at MNH in Dar es Salaam. Probability proportional to size systematic sampling was used to recruit HCWs selected from six departments with direct patient and/or biological sample contact. A structured questionnaire was used to obtain study information that included: Participants' demographic characteristics, infection prevention and control practices, HBV immunization history, and risk for non-response to HBV vaccine. All participants were tested for HBsAg by a point of care rapid diagnostic test. Vaccinated participants were tested for immune response by quantitative HBsAb and HBcAb. Prevalence of HBV infection, vaccination coverage, and immune response to HBV vaccine were analyzed as proportions. Factors associated with not vaccinating were determined by using Robust Poisson Regression, p-value less than 0.05 were considered statistically significant. **Results:** A total of 415 HCWs were recruited. The prevalence of HBV infection was 1.2%. Only 46.3% of the HCWs, received at least one HBV vaccine dose and 42.4% had completed at least two doses. Among HCWs that had completed vaccine doses, 96% developed protective immunity. Cleaning staff and laboratory scientists were less likely to vaccinate. **Conclusion:** The prevalence of HBV infection among HCWs at MNH is low. HBV vaccination is alarmingly low. Further measures to improve vaccine uptake are needed as protective immune responses were observed among fully immunized HCWs.

323. Osima, D.J. (2024). Prevalence and factors associated with HIV self-testing uptake among adolescent girls and young women in middle learning Institutions in Dodoma city Tanzania, 2024: A cross-sectional study. Muhimbili university of health and Allied Sciences.

ABSTRACT

Background: In 2015, globally, around 41,000 adolescent girls and young women died due to AIDS-related illnesses, with less than 20% of them knowing their HIV status in Sub-Saharan Africa. To end the AIDS epidemic by 2030, different strategies are required to address previous challenges and barriers toward achieving the universal goal of ensuring that 95% of the people living with HIV know their status. The need to study the magnitude, barriers, and determinants associated with HIV self-testing uptake among adolescent girls and young women in middle learning institutions in Dodoma City, Tanzania, is essential. **Methodology:** A cross-sectional study was conducted involving middle-level institutions in Dodoma city. Ten colleges were identified, from which five were selected using a two-stage cluster sampling technique. Subsequently, three classes representing years of study mainly year one, year two, and year three were randomly chosen from each selected college, and students were randomly selected from these classes. A modified Poisson regression model with robust standard errors was employed to assess factors independently associated with the use of HIVST. This regression analysis yielded prevalence ratios with a significance threshold of p-value <0.05 and a 95% confidence interval. Information from the participants was collected using a structured questionnaire. **Results:** A total of 771 participants were analyzed, with a mean age of 20.78 years and a standard deviation of 1.85. Among the participants, 360 (46.69%, 95% CI: 43.18%-50.23%) reported having used HIV self-tests. The identified barriers among those who did not take HIV self-testing were 411(53.31%) includes cultural resistance 392 (95.38%), judgment by healthcare providers 372 (90.51%), legal constraints on kit provision 360 (87.59%), fear of testing procedures 291 (70.80%), test reliability 286 (69.59%), fear of test results 283 (68.86%), accessibility of the HIVST kit 280 (68.13%), fear of others knowing they had tested 273 (66.42%), awareness of HIV

self-testing being low 193 (46.96%), and not feeling at risk of HIV infection 73(17.76%).Socio-demographic factors associated with HIV self-test uptake among adolescent girls and young women AGYW include having multiple sexual partners and studying health-related courses, with adjusted prevalence ratios (aPR) of 1.23 (95% CI: 1.05-1.45) and 1.14 (95% CI: 1.04-1.27), respectively. Other factors showed a two-fold increase in prevalence ratio, including the availability of HIV self-test kits and having testing experience, with aPRs of 2.83 (95% CI: 2.21-3.62) and 2.65 (95% CI: 2.05-3.43), respectively. Feeling at risk of HIV infection was also associated with HIV self-test uptake, with an aPR of 1.29 (95% CI: 1.11-1.50). **Conclusion:** The uptake of HIVST among AGYW in Dodoma City falls below 95% of the overall target of HIV awareness among PLWHIV. The following factors influence AGYW to use HIV self-testing: having multiple sexual partners, studying health-related courses, availability of HIV self-testing kits, previous testing experience, increased risk of infection, and feeling at risk of HIV infection. The barriers reported by participants include cultural resistance, being judged by healthcare providers, legal issues that prevent healthcare providers from providing kits to adolescents, and fear of test results. Adolescent girls and young women are at high risk of HIV infection and thus need to know their status.

324. Owidi, O.M. (2024). Correlation Between Anthropometric Determination of The Retrograde Fin Nail Length and Intraoperative Fin Nail Length Measurement Among Adult Patients with Femur Shaft Fracture Treated at Muhimbili Orthopedic Institute. Muhimbili University of Health and Allied Sciences.

ABSTRACT

Background: The sign FIN nail is an intramedullary nail that is used in the treatment of femur shaft fractures. Preoperative measurements of accurate fin nail size for insertion are paramount as it saves operation time and prevents unnecessary unwrapping of nails during surgery. Anthropometric techniques used in preoperative determination of fin nail length include measuring the distance between the lateral knee joint line and greater trochanters most prominent portion, measurement of the most prominent part of greater

trochanter and the superior pole of the patella and also measurement of the distance from the tip of the little finger to the olecranon. The gold standard for obtaining fin length is intraoperative fin nail estimation via use of marked reamer, nonetheless some literatures have shown that anthropometric preoperative determination of fin nail length is as well effective. This study aimed at assessing the accuracy of anthropometric determination of fin nail length among adult patients with femur shaft fracture treated at Muhimbili Orthopedic Institute (MOI). **Objective:** To determine the correlation of preoperative anthropometric determination of retrograde fin nail length and intraoperative fin nail length measurement among adult patients with femur shaft fracture treated at MOI. **Materials and methods:** A cross-sectional descriptive hospital-based study was carried out at Muhimbili orthopedic Institute from March 2023 to December 2023. A consecutive sampling technique was employed to obtain 44 patients after they had met inclusion criteria. These forty-four patients with femur shaft fracture that were intended for flexible intramedullary nail (FIN IMN) insertion whether as an elective case or emergency case and satisfied the inclusion requirements and gave their consent to participate in the study. The preoperative measurement result as per the operating surgeon and two randomly selected residents was documented for each patient, the principal investigator also did the following anthropometric measurements: the distance between greater trochanter to "superior" pole of patella (GT-SP), greater trochanter to the lateral knee joint line (GT-LKJ) and olecranon to the tip of little finger (O-TF). Accuracy was determined by measuring intraoperative fin nil length using a marked reamer and compared to preoperative anthropometric fin nail length measurement. For categorical data, descriptive statistics like means and standard deviations was employed. These were entered into password-protected Excel spread sheet tables and then analysed using Stata 14 software. The P value of <0.05 was considered statistically significant based on the two-sided t test. **Result**: A total of 44 patients were enrolled to the study. The mean age was 33, more than 60% were above 25 years and 86.36% were males. 81.82% were motor cycle accidents. The correlation between the intraoperative nail size and the pre operative measurements were significant and linear, with the highest correlation being between intraoperative nail size and olecranon to tip of little finger less 10cm.

(spearman's rho 0.87, p <0.01). **Conclusion and recommendation:** There was linear and positive correlation between the intraoperative nail size and all the pre operative measurements, and was also statistically significant. The study recommends the use of olecranon to tip of little finger less 10cm as first priority pre operative measurement, followed by olecranon to tip of little finger less 8cm as they were more accuratea.

325. Panga, D. (2024). Comparative assessment on the adherence and effectiveness of dolutegravir versus lopinavir-based regimens among children with HIV infection in Tanzania and associated factors: A retrospective cohort study. Muhimbili University of Health and Allied Sciences.

ABSTRACT

Background: Tanzania bears a significant HIV burden, with around 85,000 children living with the virus as of 2021, according to the United Nations Programme on HIV/AIDS (UNAIDS). The global HIV 95-95-95 targets aim for 95% of people with HIV to be diagnosed, 95% of those diagnosed to be on antiretroviral therapy (ART), and 95% of those on ART to achieve viral load suppression by 2030. Tanzania has achieved significant advancements: 60.6% of individuals with HIV are aware of their status, 93.6% of those who know their status are receiving antiretroviral therapy (ART) and 87% of those on ART have attained viral load suppression. Adhering well to ART is crucial for meeting these goals, particularly for pediatric patients who not only needs safe and effective but also medications tailored for children. **Objective:** To compare the adherence and effectiveness of a dolutegravir (DTG) tablet 10mg-versus Lopinavir (LPV/r) based regimens among HIV-infected children in Tanzania and associated factors. **Methodology:** This retrospective cohort study was conducted from January 2021 to November 2023 at three selected CTC clinics in Tanzania: Muhimbili National Hospital, Mbeya Zonal Referral Hospital, and Baylor College of Medicine Bugando- Mwanza. The study included children who had been on the DTG and Lopinavir-based regimen for at least six months to one year without prior exposure to other HIV treatment regimens. Adherence was measured by assessing the patients' refilling schedule of medicine and

effectiveness was assessed by viral load suppression (HVL < 50 copies/ml). Data were collected using a structured case report forms and then analyzed using SPSS version 23. Descriptive statistics summarized the data, and associations between regimens adherence and effectiveness were evaluated using modified poison regression. **Results:** The study included 340 participants. Adherence rates were significantly higher among those on the DTG regimen (95.9%) compared to those on the Lopinavir/ritonavir (LPV/r) regimen (85.1%) (P < 0.001) 95 % CI. Adverse drug events (ADEs) were significantly lower in the DTG group (8.7%) compared to the LPV/r group (22.0%) (p < 0.001). Factors which were significantly associated with good adherence included being aged ≥ 5 years (aRR = 1.08, p = 0.04) 95 % CI, the presence of an active caregiver (aRR = 1.40, p = 0.006) 95 % CI, and the absence of ADEs (aRR = 1.28, p = 0.008) 95 % CI. Viral load suppression rates were higher in the DTG group at both at 6 and 12 months compared to the LPV/r group. **Conclusion and Recommendation:** The DTG regimen is associated with higher adherence and better effectiveness in achieving viral load suppression among pediatric patients compared to the LPV/r regimen. These findings support the use of DTG as a preferred treatment option for children with HIV. Ongoing monitoring and support for caregivers are recommended to enhance adherence and improve treatment outcomes. Further research with longer follow-up periods and diverse populations is needed to confirm these findings and assess long-term outcomes.

326. Paschal, C. (2024). Exploring the experiences of pregnant adolescent girls attending antenatal care service in Kahama municipal hospital, shinyanga region. Muhimbili University of health and allied sciences.

ABSTRACT

Background: Adolescent pregnancy that range from 10-19 years is of global public health concerns. Pregnancy in girls below the age of 19 years poses severe negative implications in every aspect of adolescent's life including health, economic and education developments. The burden requires permanent and complex solution. Various issues pertaining to caring for pregnancy exist including attending Antenatal Care (ANC)

services. Main **Objective:** To explore the experiences of pregnant adolescent girls on accessing antenatal care services in Kahama Municipal hospital, Shinyanga region. **Materials & Methods:** This research used phenomenological study design using qualitative approach. Interview guide was used in conducting face to face, In-depth interviews with 20 pregnant AG aged 10-19 years who were attending ANC services at Kahama municipal hospital. The study participants were purposively selected during ANC clinic on the day of data collection. Thematic data analysis approach was used and findings are presented in themes and subthemes. **Results:** The study found that antenatal care (ANC) services for pregnant adolescent girls were accessible, ANC services provided five days a week (Monday to Friday) from morning to early afternoon. Healthcare providers revealed positive attitudes and used respectful language during the provision of ANC services. Facilitating factors for accessing ANC service included the availability of healthcare providers, family support, prenatal education, and medical equipment. However, barriers to attending ANC services were identified, such as a shortage of healthcare providers, inadequate infrastructure, small waiting areas, and a lack of privacy and confidentiality during service provision. **Conclusion:** The study revealed that ANC services are generally accessible for pregnant AG at Kahama Municipal Hospital. Access to these services is facilitated by the presence of healthcare providers, and the availability of medical equipment and drugs. However, effectiveness and full accessibility of the ANC services are significantly affected by shortage of healthcare providers, inadequate infrastructure and a lack of privacy and confidentiality. It is recommended that pregnant AG to be given a special day and priority during ANC service provision also expand community health education and promotion program to reduce the workload of healthcare provider. Moreover, there is need to strengthen ANC services in other health centres and dispensaries that are within Kahama municipal to increase accessibility.

327. Pathan, P.M. (2024). Indications, Prevalence, predictors of mortality and Outcome of Admission to Maternity Intensive Care Unit Among Critically Ill

Women Admitted at Muhimbili National Hospital, Dar Es Salaam. Muhimbili University of Health and Allied Sciences.

ABSTRACT

Background; maternal mortality remains a significant public health challenge, particularly in low-resource settings, where it is often linked to critical maternal conditions requiring intensive care. Pregnancy-related complications such as hypertensive disorders, severe hemorrhage, sepsis, and cardiac complications can escalate rapidly, leading to life-threatening situations. Prompt access to intensive care unit (ICU) services is crucial for managing such critically ill obstetric patients, as it provides advanced monitoring and life-saving interventions. However, delays in recognizing critical illness, seeking care, and accessing specialized ICU services contribute to poor outcomes, including high maternal mortality. In many developing countries, including Tanzania, maternal ICU admissions are rare but associated with high mortality rates, reflecting the severity of the cases admitted. Muhimbili National Hospital (MNH), a tertiary referral center, plays a pivotal role in managing critically ill pregnant and postpartum women, making it an ideal setting to study the prevalence, indications, outcomes, and predictors of mortality among maternity ICU patients. Understanding these factors is essential for developing strategies to reduce maternal deaths and improve obstetric critical care. **Study objective**: to determine the prevalence of maternity ICU admission, indications, maternal outcomes, and predictors of mortality after admission to maternity ICU among critically ill obstetric patients admitted at MNH, Dar es Salaam from January 2020 to December 2022. **Methods**; this was an analytical hospital-based cross-sectional study. Data was collected by retrieving medical records from the labor ward, and ICU registry and cross-checking with the hospital's electronic database, then retrieving files from medical records. Descriptive statistics was presented as frequencies, proportions, percentages, mean with standard deviation, and median with range and charts. The primary outcome variable was the outcome of the critically ill obstetric patients upon exiting from the ICU. Multiple regression analysis was employed to generate hazard ratios for relations with the participants' indications of admission to

maternity ICU, demographics, and clinical characteristics. **Results:** A total of 187(0.7% of all maternity admissions) women were admitted to maternity ICU, 73.3% (137/187) died, and sepsis being the leading cause of death (24.1%). The median age was 33 years and the IQR of 28-38 years. The majority (92.2%) were referral cases, more than half of them (65.8%) were postpartum, (and 51.9%) had vaginal delivery. Hypertensive Disorders of Pregnancy was the most common indication prompting ICU admission, accounting for (26.7% of all admissions). Women admitted to ICU were more likely to die if their indication for ICU admission were sepsis, respiratory complications, and cardiac complications **Conclusion**: hypertensive disorders of pregnancy (HDP) were the most common reason for ICU admission, followed by respiratory and neurological complications. However, the majority of patients admitted to the maternity ICU died, with sepsis as the leading cause of death, followed by pneumonia and cardiac diseases.

328. Paul, C.H. (2024). Open surgical treatment outcome and associated factors among patients with chronic venous insufficiency related to primary varicose veins at Jakaya Kikwete cardiac institute, Tanzania. Muhimbili University of Health and Allied Sciences.

ABSTRACT

Background: Chronic venous insufficiency (CVI) is a common ailment that mainly affects the lower limbs and greatly diminishes one's quality of life. About 1% to 40% of the adult population suffers from CVI worldwide. Despite the increasing burden of the disease on individuals' quality of life and economic status, less has been reported on chronic venous insufficiency raising a public health concern. In Tanzania, very few facilities offer open surgical therapy for CVI. However, not enough studies have been conducted to determine the outcome of open surgery for treating CVI. **Objectives:** To determine the clinical profile, and associated factors of open surgical treatment outcome among patients with CVI related to primary varicose veins at Jakaya Kikwete Cardiac Institute (JKCI). **Methodology:** A health-facility based retrospective cross-sectional study, was conducted to examine CVI patients who attended JKCI between January 2023

and December 2023. The study was conducted for three months (December 2023 to March 2024). Patients were enrolled using simple random sampling. Information containing socio-demographic and clinical characteristics were obtained from the patient records using the structured data abstraction tool. Data were analyzed using Stata version 15.1. To determine the associations between the dependent and independent variables, logistic regression models was used. Variables with a p-value of <0.05 were considered to be significant factors for good surgical treatment outcomes in CVI patients. **Results:** Ninety-seven (n=97) patients with CVI related to primary varicose veins at JKCI were enrolled in this study, and the majority (60.8%, 59/97) were male. The study participants' median age was 58 years (IQR: 47- 64). The proportion of good surgical treatment outcomes among CVI patients was 69.1% (67/97). In this study, having no active venous ulcer [aOR=2.01: 95% CI: 1.10-4.70, p=0.020], and having reduced or subsided post-operative oedema [aOR=1.21: 95% CI 0.20-3.21, p<0.001], were vi independently associated with good surgical treatment outcome among CVI patients related to primary varicose veins at JKCI**. Conclusion:** The study revealed the proportion of good surgical treatment outcome of 69.1% among CVI patients attended at JKCI. Absence of active venous ulcer preoperatively and presence of reduced or subsided post-operative oedema were factors independently associated with good open surgical treatment outcome among patients with CVI. These underscore the need for a comprehensive pre and postoperative patient assessment, in optimizing treatment strategies for CVI.

329. Paul, C.A. (2024). The use of internal rotation traction radiographs in improving radiographic assessment of extracapsular femoral fractures at Muhimbili Orthopedic Institute. Muhimbili University of Health and Allied Sciences.

ABSTRACT

Background: The incidence of complex extracapsular proximal femoral fractures is rising globally, necessitating prompt and accurate diagnosis. While internal rotation traction radiographs have demonstrated higher reliability in other settings, their effectiveness in the clinical environment at Muhimbili Orthopedic Institute has not yet

been assessed. This study aimed to assess this phenomenon. **Objective:** This study aimed to assess the use of internal rotation traction radiographs in improving the radiographic assessment of extracapsular femoral fractures at Muhimbili Orthopedics Institute. Methods: A cross-sectional study was conducted at Muhimbili Orthopedics Institute, involving 46 participants with extracapsular proximal femoral fractures who were attended at the emergency department between July 2023 and December 2023. Data on fracture pattern, routine, and traction internal rotation radiographs were taken from the participants. 5 senior residents who were randomly selected evaluated the radiographs. Descriptive statistics was used to assess the pattern of extracapsular femoral fractures, while Fleiss's kappa statistics was used to analyze the interobserver reliability for the routine and traction internal rotation radiographs among senior residents. **Results:** The mean age was 63.8 ± 17.6 years. The majority of participants were females (55%), and most fractures resulted from slipping on a slippery surface (34.8%). The fractures were predominantly intertrochanteric (58.7%) and occurred more frequently on the right side (69.6%). The overall interobserver reliability among senior residents using routine radiographs was moderate ($\kappa = 0.593$, SE = 0.03, Z = 203.608, $p < 0.001$). Individual evaluations showed substantial agreement for diagnosing intertrochanteric ($\kappa = 0.626$, SE = 0.013, Z = 48.386, $p = 0.015$) and per trochanteric fractures ($\kappa = 0.611$, SE = 0.013, Z = 47.890, $p < 0.001$), and excellent agreement for subtrochanteric fractures ($\kappa = 1.00$, SE = 0.013, Z = 77.340, $p < 0.001$). There was fair agreement for diagnosing unstable fractures ($\kappa = 0.214$, SE = 0.013, Z = 16.529, $p < 0.001$) and substantial agreement for stable fractures ($\kappa = 0.630$, SE = 0.013, Z = 48.744, $p < 0.001$). vi in contrast, the overall interobserver reliability using internal rotation traction radiographs was excellent ($\kappa = 0.943$, SE = 0.04, Z = 262.928, $p < 0.001$). Evaluations of individual variables indicated nearly excellent agreement on the evaluability of radiographs ($\kappa = 0.990$, SE = 0.013, Z = 76.587, $p < 0.001$), and for diagnosing intertrochanteric ($\kappa = 0.904$, SE = 0.013, Z = 69.871, $p < 0.001$), per trochanteric ($\kappa = 0.995$, SE = 0.013, Z = 76.965, $p < 0.001$), and subtrochanteric fractures ($\kappa = 1.00$, SE = 0.013, Z = 77.330, $p < 0.001$). There was nearly perfect agreement for assessing unstable fractures ($\kappa = 0.995$, SE = 0.013, Z = 76.960, $p < 0.001$) and stable fractures ($\kappa = 0.950$, SE = 0.013, Z = 73.455, $p < 0.001$).

Conclusions: This study demonstrates that internal rotation traction radiographs significantly enhance the interobserver reliability of fracture assessment compared to routine radiographs, highlighting their potential utility in improving diagnostic accuracy and patient outcomes in clinical practice. It is recommended that clinical protocols be updated to include internal rotation traction radiographs for the assessment of extracapsular femoral fractures. Furthermore, preventive measures should be implemented to prevent falling among elderly individuals, which would lead to extracapsular proximal femoral fractures.

330. Peter, F. (2024). Obstructive sleep apnea risk and associated factors among patients with end-stage kidney disease on maintenance hemodialysis at Muhimbili National Hospital, Dar es Salaam. Muhimbili University of Health and Allied Sciences.

ABSTRACT

Background: Obstructive sleep apnea (OSA) is claimed to affect more than 50% of hemodialysis patients, with the reported prevalence being extremely variable. It is known that OSA increases cardiovascular risk in ESRD patients and impairs the QOL with cardiovascular mortality remaining the leading cause of death in these patients. Aim: To determine the prevalence and associated factors of risk of OSA among ESRD patients on maintenance hemodialysis therapy at Muhimbili National Hospital (MNH). **Methodology:** A hospital-based cross-sectional study was conducted among patients with ESRD on maintenance HD between September 2023 and January 2024 at the MNH dialysis center. The patient's sociodemographic and clinical characteristics were recorded. The STOP-Bang and ESS questionnaires were administered serially starting with SBQ. The ESS score of 10 points. A comparison of categorical variables was done using a Chi-square and Robust Poisson regression was used to identify factors associated with OSA. A significance level was set at p-value <0.05 **Results:** A total of 350 ESRD patients were enrolled in the study. The median age was 52.0 IQR (43-59) years with a male-to-female ratio of 2.4:1. The prevalence of risk of OSA was 37.1%. A

significantly high prevalence of risk of OSA was seen among hypertensive patients (42.4%) (p=0.001) and diabetic patients (62.2%) (p<0.0001). Independent factors associated with OSA were hypertension (aPR(95%CI) =2.91, (2.094.06), p<0.0001) and diabetes (aPR(95%CI) =3.37 (2.68-4.23), p<0.0001). Dialysis vintage, number of HD sessions per week, dialysis adequacy, and laboratory parameters were not independently associated with the risk of OSA**. Conclusion:** The risk of OSA is common among ESRD patients on maintenance hemodialysis. Early detection and effective management of those patients with a risk of OSA among ESRD patients by nephrologists is of great significance as it will reduce cardiovascular complications and improve the quality of life.

331. Peter, J.A. (2024). The prevalence of ampc beta-lactamases production among gram-negative bacilli clinical isolates at Muhimbili national hospital, Dar es salaam, Tanzania. Muhimbili University of Health and Allied Sciences.

ABSTRACT

Background: Antimicrobial resistance (AMR) is an emerging public health concern. The rapid increase of AMR is caused by various mechanisms, including inactivation of the beta lactam antibiotic ring. AmpC beta-lactamase enzymes are cephalosporinases encoded on the chromosomes of many Enterobacter ales. They present various spectrums of cephalosporin hydrolysis but are not inhibited by the beta-lactamase inhibitors. Their expression severely curtails treatment options. Additionally, AmpC enzymes may be inducible in several pathogens, complicating the treatment of infections caused by these pathogens. **Objective:** To determine the proportion of AmpC Beta-lactamases production among Gram negative bacilli from clinical isolates. **Methods:** This laboratory-based cross-sectional study involved Gram-negative bacilli clinical isolates at the Central Pathology Laboratory of the Muhimbili National Hospital, Dar-es Salaam. The analytical profile Index-20 test was used to identify the Gram-negative bacilli. The AmpC beta-lactamase production was confirmed by a disc approximation method for isolates resistant to cefoxitin. Inducible AmpC beta-lactamase was detected using a disc

antagonistic phenotypic test method for the isolates susceptible to third-generation cephalosporins. Kirby Bauer's disc diffusion method was used for antimicrobial susceptibility testing. Descriptive data analysis was performed using SPSS version 20. **Result The study** enrolled 134 clinical isolates of Gram-negative Enterobacter ales 85(63.4%) and non-fermenting gram-negative rods 49(36.6%). AmpC beta-lactamase production was confirmed in 60(44.8%) isolates, and inducible AmpC beta-lactamase production in 13/46(28.3%) isolates. Common AmpC beta-lactamase producers were Pseudomonas spp.22/31(71.0%), Acinetobacter baumannii, 11/18(61.1%) and Escherichia coli, 8/20(40%). Antimicrobial resistance was found more for ceftazidime (69.4%), ampicillin (64.2%), and gentamycin (61.9%). The least antibiotic resistance was seen for amikacin (20.1%). The overall multidrug resistance was 80.6%. Almost all isolates showed a high proportion of multidrug resistance ranging from 75% to 100% except Pseudomonas spp (45.0%). **Conclusion:** The study found more constitutive inducible AmpC in non-fermentative beta lactamase producers and multidrug-resistant strains among gram-negative bacilli clinical isolates at the tertiary Hospital. Routine testing for AmpC beta-lactamase is warranted to enhance the management of infections caused by Gram-negative bacteria.

332. Philemon, A. (2024). Evaluation Of Postoperative Outcomes and Associated Factors Among Traumatic Brain Injury Patients Admitted to The Intensive Care Unit at Muhimbili Orthopedics Institute. Muhimbili University of Health and Allied Sciences.

ABSTRACT

Background: Traumatic brain injury is a major concern worldwide. The most common causes of traumatic brain injury are falls, road traffic accidents (RTAs), and assaults. Patients with severe brain injury who have a CT scan that confirms epidural hematoma, subdural hematoma, and a depressed skull fracture may benefit from emergency surgical intervention. It has been reported that in sub-Saharan countries, including Tanzania, there is substandard management resulting in poor outcome for patients with severe TBI

requiring emergency surgical interventions and standard ICU care. Age, mechanism of injury, type of brain surgical procedure, and ICU care have been reported to influence the outcome of emergency surgical intervention such as post-operative complication, recovery, or death. **The objective of this study: was** to evaluate postoperative outcomes and associated factors among traumatic brain injury patients admitted to the ICU at MOI. Methodology: Hospital-based analytical cross-sectional study conducted at MOI. This research included 61 patients who underwent emergency surgical interventi following Traumatic Brain Injury (TBI) and were subsequently admitted to the Intensive Care Unit (ICU) at MOI between July and December 2023. Data collection utilized an observational checklist, comprising three distinct sections: patient factors, care factors, and outcomes. Statistical analysis was performed using SPSS version 26. Descriptive statistics were employed to summarize both independent and dependent variables. The fisher's test was utilized to assess associations among variables, with a significance level set at $p < 0.05$ to denote statistical significance. **Results:** In this study, we analyzed data from 61 TBI patients who underwent emergency brain surgery and were hospitalized in the MOI ICU. Among them, 37 patients (60.7%) underwent craniotomies, while the remaining 24 patients (39.3%) underwent alternative procedures such as skull elevation, de-compressive craniotomy, bur-hole, and external ventricular drainage. Among the patients who underwent emergency brain surgery and were admitted to the MOI ICU, 8.2% (5 patients) did not survive their ICU stay. The most common complications observed in ICU patients were hemodynamic instabilities, including hypertension, arrhythmias, and hypotension, affecting 22 patients (36.07%), and postoperative nausea and vomiting (PONV), affecting 18 patients (29.51%). Incident timing was not recorded for all TBI patients who underwent emergency brain surgery. The majority of patients 39 (63.93%) spent between 0 and 3 days in the intensive care unit. Furthermore, a significant association was found between admission Glasgow Coma Scale (GCS), Kampala Trauma Score (KTS) and discharge status, as well as ICU stay ($p=0.000$). Additionally, a significant association was noted between emergency brain surgical intervention and discharge status, as well as ICU stay ($P<0.05$). **Conclusion and recommendations**: The observed mortality rate of 8.2% from this study, this calls for further studies to determine

the cause of this mortality rate compared to other regions of the world and hence improve traumatic brain injury patient's outcome in our setting. The prevalence of hemodynamic abnormalities and postoperative nausea and vomiting (PONV) among ICU patients emphasizes the importance of vigilant monitoring and proactive management of these complications to improve patient outcomes. The significant association between admissions GCS, Kampala trauma score and both discharge status and ICU stay highlights the prognostic value of trauma severity in predicting patient outcomes.

333. Rajabu, R.A. (2024). Prevalence and factors associated with schistosoma mansoni infection among adults in Busega district council, Tanzania. Muhimbili University of Health and Allied Sciences.

ABSTRACT

Background: Tanzania has a high burden of intestinal schistosomiasis, particularly around Lake Victoria, and while efforts are being made to control the disease through Mass Drug Administration, vulnerable groups such as adults are often overlooked. **Objective:** The study aimed to determine prevalence of S. mansoni infection and associated factors among adults in Busega district council. **Methodology:** The study used a cross-sectional design targeting adult in Busega district council. A three-stage cluster sampling method selected 321 participants. Data were collected through interview schedule and, a single stool sample from each participant were analyzed for S. mansoni eggs using Formalin-Ether Concentration technique, and quantified using Kato-Katz method. Descriptive statistics, Chi-square, and Fisher exact tests compared group proportions. Modified Poisson Regression identified factors associated with S. mansoni infection, factors with $p < 0.2$ in univariate analysis were included in multivariate analysis. Factors with $p < 0.05$ in multivariate analysis were deemed statistically significant, at a 95% CI. **Results:** The prevalence of S. mansoni infection among adults was 12.8% (95% CI: 9.3 – 16.9). 78% (95% CI: 62.4 – 89.4) of respondents had light infection intensity. Although 72% (95% CI: 66.7 – 76.8) of respondents had low knowledge levels, 88.8% (95% CI: 84.8 – 92.0) displayed positive attitude toward the

disease. Open defecation during work was reported by 43.3% (95% CI: 37.8 – 48.9) of the respondents. Significant factors associated with S. mansoni infection included living in Fogofogo village (p = 0.023, APR = 2.9, 95% CI: 1.1 - 7.3), fishing (p = 0.015, APR = 3.9, 95% CI: 1.3 - 12.0), swimming (p = 0.023, APR = 2.7, 95% CI: 1.2 - 6.6), and crossing points (p = 0.011, APR = 2.7, 95% CI: 1.3 - 5.9). **Conclusion:** The prevalence of S. mansoni infection among adults was moderate, influenced by water contact activities and village residency. Despite open defecation was not significantly associated with infection, it still poses a risk of parasitic infections in the community. Furthermore, low knowledge levels observed among respondents may further undermine the effectiveness of the MDA program, despite overall positive attitudes. **Recommendations:** Provision of MDA with praziquantel, along with health education and behavior change interventions, further research on WASH related factors.

334. Raphael, C.K. (2024). Assessment of knowledge, attitude, and practices of reporting adverse events following immunization together with factors affecting the reporting among healthcare providers at Bariadi district in Simiyu region, Tanzania. Muhimbili University of Health and Allied Sciences.

ABSTRACT

Background: Immunization is the most cost-effective health intervention in the history of mankind. Its role in reducing the morbidities and mortality due to vaccine-preventable diseases is significant. Despite vaccines being important in saving lives; adverse events following immunization (AEFI) do occur which need to be collected, reported, analyzed, and the findings be shared with all stakeholders for the actions towards ensuring vaccine safety. Understanding the nature of AEFI is important to minimize their occurrence and enhance the uptake of vaccines by the community. The reporting of AEFI in Tanzania is still low as per World Health Organization guideline. In Tanzania, Health Care Providers (HCPs) are obliged to collect and report AEFI. **Objectives:** This study assessed the knowledge, attitude, and practices of reporting AEFI together with factors affecting the reporting among HCPs at Bariadi District in Simiyu region, Tanzania. **Methodology:**

This analytical cross-sectional study was conducted between May and June 2024. A total of 180 HCPs were enrolled and a structured questionnaire adopted from a previous study conducted in Tanzania was used to assess the knowledge, attitude, and practices (KAP) of reporting AEFI among HCPs at primary health facilities. Statistical Package for Social Science (SPSS) software version 23 was used for entry and data analysis, and the findings were summarized using frequency and percentages. The chi-square test was used to screen for factors associated with AEFI reporting while the Robust Poisson regression model was used to confirm the determinants**. Results:** Of 180 HCPs enrolled in the study, the median age was 32 (IQR; 29, 38) years. Among the HCPs; more than one quarter (28.89%) had adequate knowledge of reporting AEFI, and more than half (68.89%) had positive attitudes and good practices (62.22%) of reporting AEFI. Less than half of HCPs (48.3%) had encountered AEFI cases during their routine practices, and about two third (69%) reported it. In multivariable analysis, good knowledge of reporting AEFI was significantly associated with good practices of reporting AEFI [(aPR=1.52, 95% CI=1.24-1.86, P<0.001)], the age group ≤ 35years was statistically significant in good practices of reporting AEFI [(APR=0.65, 95% CI=1.12-2.34. P=0.011)], and Participant's working experiences of 1-4 years and 5-10 years were statistically significant associated with good practices of reporting AEFI [(aPR= 0.65, (95% CI 0.45-0.95; p= 0.025) and (aPR= 0.65, 95% CI 0.44-0.97, p= 0.033)] respectively. **Conclusion:** Despite inadequate knowledge of reporting AEFI by most HCPs; the attitude and practices of reporting AEFI for most HCPs were promising. The knowledge gaps on reporting AEFI still exist which signify the need for more training, routine follow-up, and supportive supervision on AEFI surveillance. The provided reasons for underreporting AEFI should be integrated and action taken for effective Vaccine safety surveillance in Tanzania.

335. Raphael, P. (2024). Immunohistological types of head and neck lymphomas and their correlation to HIV status among patients at Muhimbili National Hospital. Muhimbili university of health and Allied Sciences.

ABSTRACT

Background: Lymphoma is a heterogeneous and uncontrolled proliferation of lymphoid cells (i.e., B cells and T cells or natural killer cells). Recently, according to the literature, there has been a gradual but remarkable 3-4% annual increase in the occurrence of lymphocytic malignancy in the whole population. Although it has been revealed to be among the most common acquired immunodeficiency syndrome-defining malignancies, its trend in the head and neck was not reported in Tanzania. **Broad objective:** This study was meant to determine the Immunohistological types of head and neck lymphomas and their correlation to Human immunodeficiency virus (HIV) status among patients diagnosed at Muhimbili National Hospital during the study period. **Methodology:** This was a retrospective cross-sectional study (with data coverage between January 2021 to December 2023), and study duration was 6 months. The study involved 280 patient's medical records with diagnosis of head and neck lymphoma at Muhimbili National Hospital. Data including patient's age, sex, HIV status, histology and immunohistochemistry results were collected from the Hospital medical records (both from soft and hard files). Statistical Package for the Social Sciences (SPSS-25) and Microsoft Excel were used for analysis. Categorical variables were summarized through tables using frequencies and percentages, while the Pearson correlation coefficient was applied to determine the correlation relationship between HIV status and head and neck Lymphomas variables, Chi-square test was used to determine the association between variable findings, and their significance level was set at $p < 0.05$ with a confidence interval of 95%. **Results:** The study involved 280 head and neck Lymphomas. Their ages ranged between 1 to 83 years, the common age group was 21- 40 years (29.3%) with mean age and standard deviation of 37.76 and 20.47 years respectively. There was slightly male predominance 155 (55.4%) with male to female ratio of 1.3:1. non-Hodgkin lymphomas (NHL) was the common type 210(75.0%) mostly involving age group 41- 60 years (32.4%) and males 122(58.1%) with male to female ratio of 1.4 :1. Hodgkin lymphomas (HL) was common in females 37(52.9%) and age group of 21-40 years (38.6%). These findings were statistically significant (P – value = 0.028) For HL subtypes, the Classical variant was the most common (74.3%), more in males 27 (51.9%). It presented with bimodal peaks in age groups 1-20 and 21-40 years both rating 36.5%. In

cases of NHL subtypes, diffuse large B cell lymphoma was the most common variant 108(51.4%) counting more in males 64(59.3%) and involved all age groups. These findings were not statistically significant (p – values > 0.005) Of all 280 patent's medical records, HIV status documentations were only obtained in about 176(62.9%). Whereby regarding HL, 14(34.1) tested HIV positive. Among 135 patients with NHL, 41(30.4) were HIV positive. Pearson correlation coefficient for HL to HIV status was - 0.070 and 0.116 for the NHL. All of these findings were not statistically significant with P- values of 0.667 and 0.181 respectively. **Conclusion:** In this study, 75% of all participants had non-Hodgkin lymphomas. diffuse large B cell lymphoma comprised > 50% of all NHL subtypes and affected all age groups. Peripheral T-cell lymphomas became second instead of follicular cell lymphomas as reported by most studies from different parts of the world. The proportion of Nodular lymphocytes predominant HL was found to be relatively higher (25.7%), and in our setting classical HL had bimodal peaks in age groups 1-20 and 21-40 years. A weak positive correlation was found between types of NHL to HIV status. **Recommended:** are more emphasize on increasing diagnostic and treatment requirement supply for diffuse large B cell lymphoma, improvement in documentation of patient's medical records by clinicians, HIV screening in patients with non-Hodgkin Lymphomas

Recommendation: In our setting with limited access to invasive procedures such as ICA, CCTA may be used as get way to select patients who will benefit from ICA. In that effect ICA may be used mostly for therapeutic purposes.

336. Rubeni, R. (2024). Post Radiotherapy Utilization of Primary Healthcare and Associated Factors Among Prostate Cancer Survivors. Muhimbili University of Health and Allied Sciences.

ABSTRACT

Background: Prostate cancer diagnoses have increased by 3% annually since 2014, with the disease representing 10.4% of reported cancer cases in Tanzania. Advances in treatment have raised the 5-year survival rate for early-stage prostate cancer to nearly

100%, with radiotherapy being essential for most patients. Survivorship care, including disease management and psychosocial support, is provided by specialized cancer centers and primary healthcare facilities, but information on primary care utilization for survivors in Tanzania is limited. **Objective:** To determine the magnitude and factors associated with primary healthcare utilization (PHU) among prostate cancer survivors (PCS) treated at Besta Super Specialized Polyclinic from January 2021 to December 2023. **Methodology:** A cross-sectional study was conducted at Besta Super Specialized Polyclinic to evaluate primary healthcare utilization (PHU) post-radiotherapy among prostate cancer survivors. Survivors who completed treatment between January 2021 and December 2023 were recruited through consecutive convenient sampling. Data were collected via questionnaires, medical registry retrieval, and telephone interviews. Analysis was performed using SPSS version 25, with bivariate analysis identifying variables ($p<0.25$) for inclusion in multivariable logistic regression to determine PHU predictors ($p<0.05$). Significant associations were found between PHU and various demographic and clinical factors. **Result:** The study of 213 PCS (median age 70) found most were uneducated peasants, married/cohabiting, living rurally, and in stage III-IV on ADT. Common comorbidities included joint pain and hypertension, with fewer bowel symptoms. The PHU was found to be 147(69.0%). The PHU was found to be 147(69.0%) with the majority, 121(82.3%), reported visiting district hospital. Rural residence (AOR = 3.34, 95% CI [1.48, 7.57], p = 0.004), early-stage disease (AOR = 0.09, 95% CI [0.02, 0.47], p = 0.005), hypertension (AOR = 2.14, 95% CI [1.02, 4.48], p = 0.044), treatment symptoms (AOR = 4.75, 95% CI [2.16, 10.46], p = 0.001), and sexual symptoms (AOR = 5.44, 95% CI [2.44, 12.14], p = 0.001) remain significant. **Conclusion**: The study has found 69% of the prostate cancer survivors utilize PHC. Factors such as rural residence, advanced disease stage, non-hypertension, and moderate treatment and sexual symptoms are associated with higher utilization of PHC. These insights emphasize the potential of PHU to alleviate the burden on overwhelmed specialized hospital by providing accessible and effective care for cancer survivors.

337. Rugaiganisa, V. (2024). Lived experience of post-kidney transplant recipients attending nephrology clinic at Muhimbili National Hospital, Tanzania. Muhimbili University of Health and Allied Sciences.

ABSTRACT

Background: A gradual decline in kidney function causes End Stage Renal Disease (ESRD) due to chronic medical conditions like diabetes or hypertension. Kidney transplantation is known to be helpful, but studies have found that transplant recipients often experience depression and anxiety. Knowing the lived experience of people with transplanted kidney help to identify complications that are important to those affected by a disease or condition, so that real-world challenges can be prioritized in healthcare delivery. Despite Tanzania initiation of local kidney transplants, the unexplored facets of life after transplantation persist, with scarcity studies to illuminate them. **Aim:** To explore the lived experience of post-kidney transplant recipients attending the clinic at Muhimbili National Hospital (MNH) in Dar es Salaam. **Material and Methods:** This study adopted a phenomenological qualitative research design to collect data from 11 post-kidney transplant recipients who attended the nephrology clinic at MNH in Ilala Municipal in Dar es Salaam. Participants were selected purposively and data was collected using an in-depth interview guided by semi-structured questions and audio recorded. The information gathered was verbatim transcribed and analyzed using content analysis. **Result:** The study includes 11 participants from the study site, with the age ranging from 31 to 70 years. Five themes emerged after data analysis addressing the lived experiences of post-kidney transplant individuals were generated. The theme encompasses post-transplant adjustment, Support needs, post-transplant health issues, post-transplant need for services, and emotional impact and life coping. **Conclusion:** The study highlights the diverse challenges and adjustments faced by transplant recipients, emphasizing the impact on their daily lives, relationships, physical health, and emotional well-being. Participants experienced significant lifestyle disruptions and health issues, necessitating strong family and social support. Financial aid and affordable post-transplant medical services were crucial for managing ongoing needs. Emotionally, recipients dealt with

distress but sought to adapt through acceptance and information-seeking. These findings underscore the importance of comprehensive support systems to improve the overall quality of life for transplant recipients. **Recommendation:** Based on these findings, recommendation include the healthcare providers and policymakers implement comprehensive support systems for transplant recipients. These should include robust family and social support networks, accessible and affordable post-transplant medical services, and financial assistance programs. Additionally, providing psychological support and resources for coping strategies can help recipients manage emotional distress and adapt to lifestyle changes. Tailoring these support mechanisms to address the medical, social, financial, and emotional needs of transplant recipients can significantly enhance their overall quality of life and improve post-transplant outcomes.

338. Rutaihwa, D. (2024). Prevalence of hearing loss and associated factors among patients with rheumatic diseases attending Muhimbili National Hospital and Muhimbili Orthopedics Institute. Muhimbili University of Health and Allied Sciences.

ABSTRACT

Background: Hearing loss in patients with rheumatic diseases is common. Studies show the prevalence of hearing loss in rheumatic diseases, ranges from 6-72% depending on the type of rheumatic disease. Data from WHO show the trend of rheumatic diseases is increasing at 3%-6% annually every year, hence the population of people with high risk of hearing loss is also increasing. Despite this fact, there is no data in Tanzania, on the prevalence of hearing loss, but also most studies done in other parts of the world have not assessed the factors contributing to hearing loss in these patients. This study will bring data on the prevalence and associated factors that contribute to hearing loss among RD patients attending rheumatology clinics at Muhimbili National Hospital and Muhimbili Orthopedics Institute. **Objective**: To determine prevalence and associated factors of hearing loss among patients with rheumatic diseases attending Muhimbili National Hospital and Muhimbili Orthopaedics Institute**. Methods**: This was a cross-sectional

study**,** in patients with established diagnosis of specific rheumatic disease, at Muhimbili national hospital rheumatology clinic and Muhimbili orthopaedics institute. Patient information including socio-demographics data, and data on hearing thresholds were taken, thereafter hearing loss was categorized into types and severity and recorded in a data sheet. Data was entered and analyzed using Statistical Package for Social Sciences version 25. Categorical variables were summarized using percentages; Numerical variables which are not normally distributed were summarized using median and interquartile ranges. Differences between groups were assessed using the chi-square test. A univariate logistic regression model was used to assess the association between dependent and independent variables. A *p*-value ≤ 0.05 was considered significant**.** **Results**; This study enrolled 88 patients with different rheumatic diseases, 27 with rheumatoid arthritis, 43 with systemic lupus erythematosis and 18 with ankylosing spondylitis. Patients age ranged from 15 to 74 years, the median age was 44 years. Percentage of females was 76.1 while 23.9% were males with female to male ratio of 3.1; 1. Hearing loss was found in 37.5 % (n=33) of patients with 69.7% (n=23) being females and 30.3 %(n=10) being males. Sensorineural hearing loss was most prevalent accounting 78.8%, conductive hearing loss proportion was 15.2% and mixed hearing loss was least represented with proportion of 6%. Rheumatoid arthritis patients had the highest proportion of hearing loss 59.3% (n=16), in systemic lupus erythematosus the proportion was 20.9% (n=9) and in ankylosing spondylitis the proportion was 44.4% (n=8).Bilateral hearing loss was common accounting 75.8% and unilateral hearing loss 24.2% of which 15.2% was right sided and 9% was left sided. Regarding severity of hearing loss this study found only mild and moderate forms of hearing loss with proportions of 45.5% and 54.5% respectively .with 75% of patients aged 57 and above having moderate hearing loss. Several factors were found to have statistical significant contribution in hearing loss among rheumatic disease patients these are age (*p*=0.002), active disease (*p*=0.001) and longer disease duration (*p*=0.003). **Conclusion**. This study found the prevalence of hearing loss among rheumatic patients to be high at 37.5% as other studies in other parts of the world, patients with active disease, advanced age;

longer disease duration are at high risk. Bilateral sensorineural hearing loss was predominant of mild to moderate level.

339. Rweyendera, T.K. (2024). Effectiveness and factors associated with healthcare waste segregation at Amana regional referral hospital, Tanzania. Muhimbili University of Health and Allied Sciences.

ABSTRACT

Background: Healthcare waste management is a critical public health issue, especially in developing countries, where poor waste segregation leads to significant risks of infection, injuries, and environmental pollution. Ineffective segregation rates range from 46.3% to 56.8%. Factors influencing segregation include the availability of supplies, training, policy enforcement, and awareness. Despite interventions by the Ministry of Health, such as training and provision of safety equipment, challenges in effective waste segregation persist. **Objective:** This study aimed to determine effectiveness and factors associated with healthcare waste segregation at Amana Regional Referral Hospital in Dar es Salaam, Tanzania 2024. **Methodology:** A hospital-based cross-sectional study involving 238 participants used stratified random sampling and structured interviews to collect data, analyzed with Stata version 18. Logistic regression identified factors related to healthcare waste segregation, using a p-value of <0.2 for variable selection in bivariable analysis and <0.05 for statical significance in multivariate analysis. **Results:** Healthcare waste segregation was deemed ineffective, with over half of respondents (54%) scoring below the cumulative threshold. Factors associated with ineffectiveness included: HCWs aged 20-30 (aOR=1.30), those without training (aOR=1.34), those reporting supply shortages (aOR=1.23), and those with unfavorable attitudes (aOR=2.30) compared to their counterparts. **Conclusion:** The study found the overall healthcare waste segregation at Amana Regional Referral Hospital was ineffective by 62.5% score. The significant factors associated with ineffectiveness of healthcare waste segregation include age, training and supervision, attitude and availability of supplies. It is important to adhere to

effective healthcare waste segregation so as to prevent HCWs infections and injuries and contamination of the environment and the public at large.

340. Sagale, J. (2024). Visual and anatomical outcomes of macular hole surgeries and associated factors in selected hospitals in Tanzania. Muhimbili University of Health and Allied Sciences.

ABSTRACT

Background: Surgical outcomes for macular holes (MHs) have significantly improved, with closure rates up to 100% and 40% of eyes reaching a visual acuity of 6/11. Untreated full thickness MHs typically worsen, leading to central visual loss and reduced quality of life. Despite two decades of complex MH surgeries in Tanzania, their outcomes and associated factors remain unknown. **Aim of study:** To determine the outcomes of macular hole surgeries and their associated factors among patients with macular holes operated at KCMC and CCBRT hospitals. Methodology: A hospital-based retrospective cohort study was conducted. Patient case notes for macular hole surgeries from October 2010 to December 2022 using consecutive sampling were included in the study. Data were analyzed using IBM SPSS Version 27. The Friedman test compared median visual acuity (VA) pre- and postoperatively. Generalized Estimating Equations assessed MH closure via binary logistic regression, while gamma regression analysed VA, accounting for repeated measures and a $p < 0.05$ indicated statistical significance. **Results:** One hundred and eight (108) eyes operated for MH were analysed. Idiopathic macular holes accounted for 93.5% of eyes. Pre-operatively, only 6.48% had good vision (VA > 6/12), with a median VA of 6/120. Post-operative three-month results showed a median log MAR VA of 1.08 (Snellen 6/72). Macular hole closure was achieved in 68.5% of eyes. Good visual outcomes were linked to being female, using sulfur hexafluoride (SF6) for vitreous tamponade, employing the conventional ILM flap technique, and using trypan blue for ILM staining. **Conclusion:** Two third of eyes achieved anatomical closure of macular holes, accompanied by a satisfactory median postoperative visual acuity. Factors linked with favourable visual outcomes included female gender, sulfur hexafluoride

(SF6) use for vitreous tamponade, adoption of the conventional ILM flap technique, and application of trypan blue for ILM staining. **Recommendations:** MHS is effective for full-thickness macular holes, emphasizing the need for refined surgical techniques and standardized patient selection criteria. Future research should include longer-term studies with detailed OCT measurements to improve treatment outcomes and patient care.

341. Saidi, H. (2024). The effect of covid-19 pandemic on adherence to appointment of antiretroviral therapy services in Uyui district, Tanzania. Muhimbili University of Health and Allied Sciences.

ABSTRACT

Background: The COVID-19 pandemic disrupted antiretroviral therapy (ART) services, compromising treatment continuity and appointment adherence for people living with HIV (PLHIV). This mixed-methods study investigated factors across individual, socioeconomic, and health systems levels that influenced adherence to ART appointments among PLHIV during the pandemic in rural Uyui District, Tanzania. **Objectives:** To determine factors influencing adherence to ART appointments among PLHIV during the COVID-19 pandemic in Uyui District. **Methodology:** A concurrent mixed-methods design integrated quantitative surveys (384 PLHIV) and qualitative interviews (20 healthcare providers). Surveys gathered data on demographics, health literacy, income and self-reported adherence. Document reviews extracted clinical appointment data. Qualitative guides explored patient experiences, provider perspectives and health systems factors. Quantitative analysis included bivariate and multivariate statistics, while qualitative data underwent thematic coding and triangulation. **Results:** The quantitative results revealed that at the individual level, younger PLHIV aged 18-34 years and males exhibited significantly lower adherence levels based on clinical records and self-report. Qualitative insights explained these disparities as stemming from optimistic bias, transition challenges, stigma, and disclosure barriers. Survey data found lower education predicted poorer adherence, while interviews highlighted resulting health literacy and comprehension gaps preventing application of remote messaging.

Quantitative surveys identified widespread job and income losses from COVID-19 that reduced affordability of transport, medications, and costs of missed work as measured through appointments skipped. Qualitative descriptions contextualized rural transport disruptions from lockdowns that left patients walking over 10km to clinics. Triangulated reports from mixed methods data showed health systems deficiencies contributed to ART medication stockouts given supply chain fragmentation, which quantitative measures confirmed through stock records. Qualitative data described how pre-existing healthcare worker shortages were exacerbated by COVID-19 absenteeism, exacerbating backlogs. **Conclusion and Recommendations:** The study found that factors at the individual level (younger age, male gender, low education, health literacy gaps), socioeconomic level (job/income loss, transport costs, rural lockdowns), and health systems level (medication stockouts from supply chain issues, healthcare worker shortages exacerbated by COVID-19) all negatively impacted adherence to ART appointments among PLHIV in Uyui District during the COVID-19 pandemic. Sustaining HIV treatment adherence during public health emergencies requires integrated interventions that address individual barriers through tailored education and service delivery models, mitigate socioeconomic barriers through social protection programs, and bolster health systems resilience by ensuring robust procurement, staffing, and decentralized drug distribution. A multi-sectorial response targeting deterrents at all levels is crucial to maintain uninterrupted ART access.

342. Salehe, A. (2024). Economic implications of managing sickle cell disease: A case of Ilala municipal, Dar es Salaam. Muhimbili University of Health and Allied Sciences.

ABSTRACT

Background: SCD is one among the significant public health concern globally, with patients often facing complex healthcare needs and considerable economic burdens. A few studies have highlighted the economic consequences of managing SCD in low-income context. This study explored the intricate relationship between health care

financing mechanisms and the economic implications experienced by patients and their households in the management of SCD. This study identified financing approaches employed by sickle cell patients and examined the impact of financing on household welfare and factors associated with financing burden in Tanzania. **Methods and materials:** A cross-sectional analytical study design employing the quantitative approaches was conducted among 277 sickle cell patients who are attending the adult and pediatric hematology clinics at Amana Regional Referral Hospital. Client exit interviews were conducted to SCD patients/ care givers after they have received care and treatment services. Using a semi-structured questionnaire. Direct and indirect patient costs associated with the management of SCD were obtained. Household self-reported income was obtained to measure the household living standard. The incidence of catastrophic health care expenditures was considered for healthcare costs that exceeded 10% of household income. Moreover, the univariate and multivariate logistic regression model was employed to determine the predictors of catastrophic health expenditure. **Results:** Of 277 respondents, the majority were female 57.04% with a mean age of 27 years. Most respondents were employed, 64.63% with a mean annual household income of US $3966. The predominant method of financing healthcare for sickle cell disease was out-of-pocket payments, used by 91.34% of respondents. The average annual cost for managing the disease was US $519 (SD: 278.57), with productivity loss being a significant cost factor. A high percentage, 80.14% of respondents experienced catastrophic health expenditures, particularly among those in the poorest socioeconomic quintile. **Conclusion:** The reliance on out-of-pocket payments for sickle cell disease treatment leads to substantial financial burdens, especially for the poorest households. Interventions to provide better financial support and healthcare access are crucial to mitigate these economic hardships.

343. Samwel, I. (2024). Hemodynamic Profiles of Heart Failure Patients Attending Jakaya Kikwete Cardiac Institute and Their Short-Term Clinical Outcomes. Muhimbili University of Health and Allied Sciences.

ABSTRACT

Background: The burden of heart failure (HF) is of increasing concern as a major cause of cardiovascular disease in sub-Saharan Africa (SSA), including Tanzania. Clinically, HF can present as one of the 4 distinct hemodynamic profiles namely; warm-dry, warm-wet, cold-dry, and cold-wet depending on peripheral perfusion and congestion status of HF patients. There is currently no available data in Tanzania that shows the proportions of, and the association between these hemodynamic profiles with short-term clinical outcomes in HF patients. **Aim:** To determine the hemodynamic profiles of HF patients admitted at Jakaya Kikwete Cardiac Institute (JKCI) and assess their short-term clinical outcomes. **Methodology:** This was a hospital-based observational cohort study conducted from September 2023 to March 2024 at JKCI adult in-patient department. Data was collected using a structured tool comprising three sections: a standardized questionnaire that gathered socio-demographic and clinical information, a follow-up chart to track hospitalization duration, readmission, and post-discharge mortality as well as a quality-of-life assessment using a Kansas City Cardiomyopathy Questionnaire -12 tool. Categorical variables were compared using Fisher's exact test, while continuous variables were analysed using the Kruskal-Wallis test. Univariate analysis identified significant variables ($p < 0.2$) for inclusion in multinomial (polytomous) logistic regression analysis. A significance level was set at $p < 0.05$. **Results:** The study comprised slightly more male participants (59.4%), with a mean (SD) age of 57 (16) years. About three-quarters (76.3%) had a history of at least one co-morbidity, with hypertension being the most prevalent (66.9%). Warm/Wet was the most common hemodynamic profile (71.9%), followed by Cold/Wet (13.8%), Warm/Dry (9.3%), and the least common was Cold/Dry (5%). Mortality at 60 days was 22%, of which 4% occurred in hospital. The median (IQR) length of hospital stay was 11(5.5-17) days; among those discharged, 20.26% were readmitted within 60 days. A substantial number of patients, 54 (43.55%), reported their health-related quality of life ranging from very poor to fair. In multivariate analysis, compared to the Warm/Dry profile the Cold/Wet profile was associated with a significantly increased risk of prolonged hospital stay (OR = 3.0, 95% CI: 2.67-13.40, p-value = 0.035), higher mortality (OR = 1.95, 95% CI: 1.10-2.13, p-value = 0.043), lower levels of serum creatinine (OR = 0.98, 95% CI: 0.96-0.99, p = 0.037) and were less likely

to be covered by health insurance (OR = 0.15, 95% CI: 0.03-0.85, p = 0.032).**Conclusion:** The analysis of hemodynamic profiles among heart HF patients at the cardiac institute in Tanzania revealed Warm/Wet as the most prevalent profile (71.9%). On the other hand, the Cold/Wet profile exhibited associations with adverse outcomes, including increased mortality and prolonged hospital stays. **Recommendations:** Considering the significant impact of hemodynamic profiles on short-term clinical outcomes, it is important to incorporate their evaluation into the assessment of HF patients. This will enable tailored interventions and patient care optimization.

344. Samwel, L. (2024). Community willingness to utilize Traditional Medicine Services at Dodoma Regional Referral Hospital, Tanzania. Muhimbili university of health and Allied Sciences.

ABSTRACT

Background: The utilization of traditional medicine (TM) has been growing rapidly in Tanzania, yet its integration into the healthcare system remains limited. The Ministry of Health (MoH) in Tanzania has recognized this trend and taken steps toward integrating TM services into modern healthcare, beginning with several regional referral hospitals, including Dodoma Regional Referral Hospital (DRRH). **Objective:** This study aims to assess the community's willingness to use traditional medicine services when integrated into modern health services at DRRH, Tanzania. **Methodology:** A **descriptive** cross-sectional study was carried out among 370 clients at DRRH using a questionnaire with semi-structured questions. Data were collected using mobile devices and analyzed using descriptive statistics, including frequencies and percentages. The Chi-square test was employed to assess associations between variables, and a p-value of 0.05 was used to determine statistical significance. Logistic regression was applied to identify factors associated with willingness to use TM services. **Results:** The study found that 55.4% of respondents had previously used traditional medicine, with only 22.4% aware of its availability within modern health facilities. Of those aware, 59% had utilized the

integrated services. A significant proportion (74.6%) held positive perceptions toward integrating TM into modern health services. Past positive experiences with traditional medicine were significantly associated with willingness to use integrated services (p=0.001). Chronic diseases like hypertension and diabetes were frequently preferred for management through integrative services. **Conclusion:** The study highlights strong community support for integrating traditional medicine into modern healthcare systems. However, increasing awareness and enhancing healthcare infrastructure are critical for successful implementation.

345. Sanga, J. I. (2024). The contribution of HIV self-testing on the uptake of HIV services and associated factors among adult males in Geita District Council, Muhimbili university of health and Allied Sciences.

ABSTRACT

Background: Notably, men are less likely than women to know their HIV status, be on treatment, and achieve viral suppression. WHO recommended HIV self-testing as an approach for improving men's uptake of HTS. **Objectives:** To determine the contribution of HIV self-testing on the uptake of HIV service among adult males in Geita DC focusing on individual, community, and health system-related factors influencing HIVST. **Materials and methods:** A pre- and post-evaluation study design using mixed methods (qualitative and quantitative) employed. Qualitative data were collected using in-depth interviews and focus group discussions. Quantitative data information on adult males who reported HIV testing between 2017 and 2022 in Geita DC were collected from the client's medical records using an abstraction form from the Ministry of health-DHIS2 database. Thematic and descriptive analysis were employed for qualitative and quantitative data respectively. **Results:** HIV testing uptake among adult males in 2017 to 2022 were 13.1% and 16.3% respectively, 2021 and 2022, testing rates were 11.9% and 16.3% respectively, HIVST accounts for 1.9% in 2021 and 21.97% in 2022. The positivity rates were 5.4% in 2017 and 3.6% in 2022 and linked to CTC service were 56.8% in 2017 and 94.0% in 2022, HIVST accounts for 21.97% of all positive linkage in

2022. Low level of awareness, availability of HIVST supplies, misconception and stigma are factors deterring the use of HIVST. **Conclusion and Recommendations:** The study findings suggest that scaling up HIVST could improve the proportion of men reached with HIV self-testing services and improve HIV testing rates among men where uptake of HIV testing remains low. To scale up HIVST the government in collaboration with implementing partners to develop effective HIVST strategies should directly target males independently using peers and their romantic partners.

Keywords: HIV self-testing, Linkage to care, HIV positivity rate, adult male

346. Sangu, H. (2024). The effect of methadone maintenance treatment on body mass index and lipid profile among clients attending MMT clinic at Muhimbili national hospital in Dar es salaam, Tanzania. Muhimbili University of Health and Allied Sciences.

ABSTRACT

Background: Methadone, a full mu-opioid receptor agonist, reduces illicit drug use and the spread of infections such as HIV and HBV, which are common among drug abusers due to injection sharing. However, it is also associated with changes in body mass index and lipid profile, an area with limited studies in Tanzania. **Objective:** The objective of this study was to examine the effect of methadone maintenance treatment on body mass index and lipid profile among clients who visit MMT clinic in MNH at Dar es Salaam, Tanzania. **Materials and Methods:** This was a retrospective cohort study with a cross-sectional element included 100 clients from an MMT clinic at MNH. Body weight and height were measured during data collection to calculate post-treatment BMIs, while baseline BMIs were determined from baseline data collected from treatment files. Fasting blood samples were collected for lipid analysis. The BMI before and after MMT and lipid profiles were determined and analyzed by age, sex and prior heroin use using t-test analyzing approach. **Results:** Ninety-two percent of participants were male, the mean age of study participants was 42 ± 9.3 years and 73% had education below secondary level. Paired t-test analysis showed a significant increase in mean BMI from 19.3 ± 2.6

kg/m^2before treatment to 20.3 ± 3.10 kg/m^2 after treatment), p<0.0001, t (100) = 4.35 (2-tailed), 95% CI= 0.56 to 1.50kg/m^2. We noticed that participants on MMT for more than 24 months had significantly higher mean BMI (21.28±2.5 kg/m^2) compared to those on MMT for less or equal to 24 months (20.05±2.5 kg/m^2), p=0.0480, t=2.00, two tailed, 95%CI =0.01075 to 2.443 kg/m^2. The mean (± SEM) increase in BMI was 1.227 ± 0.6128 kg/m^2, indicating that on average BMI is more likely to increase by 1.227kg/m^2 after two years of methadone treatment. Overall, 54% had one or more abnormal lipid levels. Decreased levels of HDL were most prevalent, rating 40% followed by elevated levels of TG, rating 21%. **Conclusions:** Methadone use is associated with an increase in BMI, with longer durations of therapy leading to higher BMI. Over 50 percent of participants had abnormal lipid profile, particularly HDL (low) and TG (high). **Recommendation:** Because of benefits of MMT we recommend expansion of MMT clinics to other urban centers in Tanzania, consider determining lipid profile of clients at enrolment and during follow up, conducting a follow-up study comprising of large sample size for a longer period to investigate the long effects of methadone on lipid profile.

347. Sawaki, E, P. (2024). Pattern of brain abnormalities in covid 19 patients with neurological manifestations referred for brain computed Tomography at Muhimbili National Hospital from January 2020–December 2021. Muhimbili university of health and Allied Sciences.

ABSTRACT

Background: Despite of interventions implemented to combat COVID-19 pandemic, morbidity and mortality due to the disease represented a global health threat. Brain was mentioned has one of the main targets for COVID-19 causative agent, however, radiological abnormalities data regarding the patterns of brain abnormalities among COVID 19 patients presenting with neurological manifestations are scarce in Tanzania settings. **Objective:** The study aimed at exploring brain abnormalities patterns in COVID-19 patients who presented with neurological manifestations and went for

computed tomography (CT) at Muhimbili national hospital (MNH) from January 2020 to December 2021. **Methodology:** This study employed a cross-sectional design by reviewing data of COVID-19 patients who were referred to radiology department for brain CT from January 2020 to December 2021 at MNH (Upanga and Mloganzila). A reporting form was used to collect patients' information including demographics, clinical and imaging data. Data analysis was performed using the Statistical Package for Social Sciences (SPSS) version 25. Social Demographic and clinical characteristics were summarized by frequency and proportion. Chi-square test was used to test the association of categorical variables, while Logistic regression model was used to analyse factors associated with neuroimaging abnormalities. Variables with P-value of <0.05 were considered to be statistical significance. **Results:** The study enrolled 200 COVID-19 patients with neurological manifestations. Almost a half 46.5% were 61years and above. There was a slight male predominance 50.5%. Brain abnormalities on CT were found in 134/200 (67%). The abnormalities were more seen patients aged between 41-60years, 61years or above, those living with HIV, DM and hypertension. Main types of brain abnormalities observed in CT were infarction in 38%, 9.0% and 9.0% intra cranial hemorrhages and brain edema respectively. In a multivariate logistic regression model, patients aged at 61years or above (OR 7.16, 95% CI 1.34–38.31, p =0.022), and those with history of hypertension (OR 25.47, 95% CI 4.39–147.66, p = <0.001), were independent risk factors associated with brain abnormalities in COVID 19 **Conclusion:** Structural brain abnormalities were common (67%) among COVI-19 patients with neurological manifestations. Infarction ra cranial haemorrhage and brain oedema were the main types of brain abnormalities. Age at 61 or above and history of hypertension were independent risk factors for brain abnormalities on CT.

348. Sawe, C. (2024). Factors associated with HIV status disclosure to HIV infected children attending care and treatment centers in Morogoro municipal. Muhimbili University of Health and Allied Sciences.

ABSTRACT

Background: There has been a significant reduction in morbidity and mortality of HIV-infected children and more of them are surviving through childhood and into adolescence due to the use of ART. However, disclosure of HIV status remains a complex and a critical issue. **Aim:** The study assessed the prevalence of HIV status disclosure and determined the demographic, psychosocial, clinical and treatment factors associated with HIV status disclosure. **Materials & Methods:** This analytical cross-sectional study involved 300 HIV positive children attending nine Care and Treatment Centers in Morogoro Municipal, selected using stratified random sampling. Data was collected through an interviewer-administered form. Modified Poisson regression analysis was performed to identify independent factors for HIV status disclosure. **Results:** The prevalence of HIV status disclosure to infected children was 49.3%. The significant factors associated with HIV status disclosure were the increasing child's age (adjusted prevalence ratio (aPR) = 1.19, 95% CI 1.13–1.25), the presence of the child's treatment supporter (aPR = 8.18, 95% CI 4.51–14.82), and the HIV condition of the child having no impact on the family (aPR= 1.45, 95% CI: 1.05-2.01). **Conclusion and recommendations:** The prevalence of disclosure among children in this study was notably low. Child's age, a child having a treatment supporter, and the child's illness not having impact on the family were associated with HIV status disclosure. Health authorities should ensure that healthcare providers implement WHO guidelines on HIV disclosure to children specifically on the age of disclosure (6-12 years), encourage treatment supporters' involvement, and frequently train healthcare workers to provide psychosocial support to mitigate the impact on family dynamics.

349. Sebe, M. (2024). The role of community home based care in delivery of HIV/AIDS services in Chake Chake district. Muhimbili University of Health and Allied Sciences.

ABSTRACT

Background: In 1983, Tanzania had three cases diagnosis and reported of HIV/AIDS in Kagera region, and by 1986 all regions had reported of Human immunodeficiency virus

(HIV) cases and continued spread since. Different approaches of service delivery against HIV have been used. Currently Community Home Based Care (CHBC) services have been provided in all 11 districts of Zanzibar. Since, the beginning of using CHBC in Zanzibar, less is known on its roles, strengths and challenges attached to CHBC. Therefore, this study intends to fill that existing gap. **Objective of the study**: To assess the roles of the CHBC in delivery HIV/AIDS services, strengths and the challenges faced on delivery these services. **Materials and Methods:** The descriptive cross-sectional design was used with both qualitative and quantitative methods. In depth interview was used in qualitative data collection while questionnaire was used in quantitative data collection. Purposively sampling technique was used on qualitative part, while systematic random sampling was used on quantitative part. **Results:** The study found that provision of health education, psychosocial support, client monitoring and follow up, identification and referral as significance services delivered by CBHC. Despite its implementation, the study found challenges facing CHBC which include shortage of community health workers, lack of privacy and confidentiality, poor perception and stigma. **Conclusion:** The study highlights the essential services provided by Community Home-Based Care (CHBC) in the Chake Chake district, including health education, psychosocial support. The successful implementation of these services has been bolstered by the collaborative efforts of NGOs, government support. However, significant challenges remain, such as a shortage of community health workers, and persistent stigma that affects client perceptions of the program.

350. Seleman, S. (2024). Factors affecting turnaround time for HIV early infant diagnosis in Dar es salaam region, Tanzania. Muhimbili University of Health and Allied Sciences.

ABSTRACT

Background: In 2022, about 39 million people globally lived with human immunodeficient virus (HIV), with around 740 children newly infected daily and 274 dying from AIDS-related causes. Mother-to-child transmission (MTCT) of HIV remains

a concern. In Tanzania, the prevention of mother-to-child transmission (PMTCT) program has notably reduced deaths among children. The shift to HIV-Deoxyribonucleic Acid Polymerase Chain Reaction (HIV DNA-PCR) test method has improved accuracy in HIV early infant diagnosis (HEID) and timely treatment. However, delay in laboratory results is still a concern and must be addressed. **Objectives:** To assess laboratory procedures for HEID and factors affecting turnaround time (TAT) in Dar es Salaam, Tanzania. Material and Methods. A mixed-methods approach was used to analyze HEID data for samples tested in 2023 in Dar es Salaam, Tanzania. Quantitative data were analyzed with descriptive statistics and logistic regression, while qualitative data were thematically analyzed to assess the HEID laboratory procedures and factors affecting TAT, defined as the duration from sample receipt at the testing sites to results authorization. **Results:** A total of 8,217 HIV-DNA-PCR results and relevant infant information were analyzed and 15 laboratory personnel were interviewed. Median TAT was 10 days higher than the target of three days for central laboratory testing and 24 hours for near-point-of-care testing (NPOCT). 8.51% of results were within the TAT range. Centralized testing had prolonged TAT [AOR: 1.67, 95% CI: 1.15–2.41] than NPOCT [AOR: 0.01, 95% CI: 0.00–0.02]. Weekends had an increased testing volume due to carryovers from weekdays, resulting in prolonged TAT, specifically on Sundays [AOR: 1.98, 95% CI: 1.17–3.37] than on weekdays [AOR: 0.18, 95% CI: 0.12–0.27]. TAT was prolonged when the test volumes exceeded the machine capacity [AOR: 2.26, 95% CI: 1.88–2.72], and also due to stock-outs [AOR: 10.58, 95% CI: 7.03–15.93]. Whole blood samples at NPOCT sites had shorter TAT [AOR: 0.01, 95% CI: 0.00–0.04]. Centralized testing TAT was further impacted by staff shortages and manual work procedures. **Conclusion:** In Dar es Salaam, delays in HEID services resulted from stockouts and laboratory operational challenges. Recommendations include enhancing the supply chain and laboratory procedures and a nationwide study to address pre-testing and post-testing issues.

351. Selestine, L. (2024). Factors influencing clinical response to neoadjuvant therapy among patients with Wilms tumor at Muhimbili National Hospital. Muhimbili University of Health and Allied Sciences.

ABSTRACT

Background: The combination of neo-adjuvant therapy, surgery, and adjuvant therapy has resulted in a cure rate exceeding 90% for non-metastatic Wilms' tumors in developed nations, yet the cure rate in low-income countries is inferior. Neo-adjuvant therapy is essential for reducing tumor size, down-staging the disease, and enhancing surgical outcomes. Nonetheless, despite the completion of neo-adjuvant therapy, available evidence in our setting reveals a proportion of patients presenting with gross tumors intraoperatively. This increases the likelihood of tumor rupture and spillage, impacting the overall treatment outcomes of Wilms tumor patients. **Aim:** The primary objective of this study was to determine the factors influencing clinical responses to neo-adjuvant therapy among patients with Wilms tumors at Muhimbili National Hospital (MNH) in Dar es Salaam. **Methods**: A retrospective hospital-based cross-sectional analytical study was conducted at Muhimbili National Hospital in Dar es Salaam, enrolling data from children diagnosed with Wilms tumors between January 1, 2018 and December 31, 2023. Data on patients' demographics, nutritional status, site of the disease, stage of the disease, histological subtype, treatment regime, and intraoperative complications (such as tumor rupture or spillage) were collected. We analyzed the data using SPSS version 26. The prevalence ratio was used as a measure of association between dependent and independent variables, with a p-value of less than 0.05 considered statistically significant. **Results:** A total of 113 Wilms tumor patients who met the inclusion criteria were recruited in the study; 69.1% (n = 70) were aged four years or younger, and the rest (38.9%) were older than 4 years (n = 43). The median age at presentation was 48 months, with an interquartile range (IQR) of 24 to 60 months and an approximate male-to-female ratio of 1:1. The right and left kidneys were affected equally and synchronous bilateral disease found in only one patient. Abdominal mass or swelling was a predominant symptom (98.2%), with 46% presenting with stages III and IV (advanced disease) at the

time of diagnosis. The majority of the patients had an intermediate-risk histology (63.7%), a low-risk 7.1%, and a high-risk 29.2%. The overall response to neoadjuvant chemotherapy in tumor volume reduction among patients with Wilms tumors in our setting is significant *(P<0.001);* however, its effect is hindered by delayed presentation with advanced disease, an older age group, and malnutrition presenting with relatively large tumor volume at the time of diagnosis *(P<0.05)*. About 42.5% experienced a major decrease in tumor volume (> 50%), and the majority of the patients exhibited a stable disease (63.7%), (29.2%) a partial response, and 6.2% experienced a progressive disease. Tumor spillage was the predominant intraoperative complication (23%), and it was significantly associated with the older age group. **Conclusion:** Late presentation with older age group, advanced disease and malnutrition at diagnosis are modifiable essential factors to enhance the neoadjuvant therapy clinical response among Wilms tumor patients at MNH. This will reduce intraoperative tumor rupture and spillage and improve the overall treatment outcomes.

Keywords: Neoadjuvant therapy, Wilms tumor.

352. Senga, J.S. (2024). Healthcare providers' perspective on the role of on-job training in improving neonatal care at Tumbi Regional Hospital, Pwani – Tanzania. Muhimbili University of Health and Allied Sciences.

ABSTRACT

Background: The neonatal mortality rate in Tanzania is 24 deaths per 1,000 live births. Tanzania Government has adopted many interventions including on job-training to improve newborn health outcomes and reduce Neonatal Mortality Rate (NMR). Kibaha District is among the Regions where Health Care Providers had the opportunity of receiving On-job training but improvement of newborn care significantly remained a challenge. **Material and methods:** The study employed an exploratory descriptive qualitative design. The study was conducted at Tumbi Regional Referral Hospital where 12 participants were selected through a non-probability purposive sampling technique. A semi-structured interview guide with probing questions was used as a data collection tool

and the interview was conducted after obtaining the consent of the participants. All interviews were audio-recorded using a digital audio recorder. The recorded data was analyzed by thematic data analysis approach**. Results:** The findings of this study indicated the health care providers' views that it is necessary to increase the number of trainings, and increase the hospital budget for trainings. Furthermore, on-job training might result in knowledge updates, improved neonatal care services and job satisfaction. Moreover, challenges related to on job trainings included shifting of healthcare workers, theory-based trainings, lack of evaluation as well as few numbers of trainings. **Conclusion:** On job trainings stands as a catalyst to enhance health care providers knowledge, skills and improved neonatal care services. Furthermore, the on-job trainings contribute to the improved newborn care services, eventually increasing the confidence to health care providers towards newborn care.

353. Senkoro, R.A. (2024). The implementation of HIV pre-exposure prophylaxis framework initiation protocols by healthcare providers in Bagamoyo district Tanzania. Muhimbili University of Health and Allied Sciences.

ABSTRACT

Background: The global fight against HIV/AIDS remains challenging, especially among key and vulnerable populations (KVPs). Despite ongoing efforts, 70% of new HIV infections occur within these groups and their partners. In sub-Saharan Africa, KVPs, including sex workers and people who inject drugs, continue to experience high rates of HIV prevalence. Tanzania is similarly affected, highlighting the need for effective prevention measures. Pre exposure prophylaxis (PrEP) has the potential to reduce HIV risk by up to 90% when used consistently, but both global and local implementation are still falling short of the established goals. Study **Objective:** This study aimed to evaluate the implementation of HIV Pre-Exposure Prophylaxis (PrEP) initiation protocols by healthcare providers in Bagamoyo District, Tanzania. **Methods:** This evaluation used a concurrent mixed-methods approach, blending a cross-sectional design with a case study framework to capture both quantitative data from document reviews and qualitative

insights from provider interviews at authorized health facilities. The analysis involved content analysis and descriptive statistics. **Findings:** The study, through documentation from the client cards, found full adherence to mandatory HIV and serum creatinine tests, and 97% adherence to STI screening. Hepatitis B surface antigen testing was not performed. There was full adherence to PrEP prescriptions and pill quantities, and 96% of participants received health education materials. Integrated services included high adherence to condom distribution (98.7%) and STI screening. Participants reported that quality assurance mechanisms, including routine audits, data collection, SOPs, and quality control processes, were vital in maintaining service standards. Supportive supervision, technical assistance, and ongoing evaluations were frequently noted as important contributors to protocol adherence, while logistical challenges and resource constraints were acknowledged as areas needing improvement. **Conclusion and Recommendations:** The study found high adherence to PrEP initiation protocols but identified gaps, including the absence of hepatitis B testing and variability in service provision. Recommendations include targeted training for health workers, community sensitization to reduce stigma, and promoting the Improved Community Health Fund to alleviate financial barriers. Future research should look at the feasibility of integrating Multiplex Rapid Diagnostic.

354. Shabani, N. (2024). Enablers and barriers of exclusive breast feeding among adolescent mothers at Chanika Maternity Hospital, Dar es salaam, Tanzania. Muhimbili university of health and Allied Sciences.

ABSTRACT

Background: Exclusive breast feeding is key in preventing diarrhea and acute respiratory infections, which are the main causes of newborn deaths. However, only 40% of infants less than 6 months are breast fed exclusively. Adolescent mothers are commonly receiving least attention, and most do not adhere to exclusive breastfeeding. Therefore, it is essential to understand the barriers to and facilitators of exclusive breastfeeding in this vulnerable group. **Objectives:** To explore the enablers and barriers

of exclusive breastfeeding among adolescent mothers at Chanika Maternity Hospital, Dar es Salaam. **Methodology:** The study used explorative qualitative study design of 10 adolescent mothers who were conveniently recruited for the study. In-depth interviewing was used as data collection method. While thematic analysis technique was used to analyze qualitative data. In-depth interviewing was employed as data collection method. While content analysis techniques were used to analyses qualitative data. **Results:** The study revealed that cost of breast feeding, advice from care providers and support from family and friends enables practice of exclusive breastfeeding among adolescent mothers. Also, fear, tight work schedule, inadequate nutrition and misunderstanding with in-laws were the barriers to exclusively breastfeed among Adolescent mothers at Chanika Maternity Hospital. **Conclusion and recommendations:** The study show that cost breast feeding, advice from health care providers, and support from family and friends enablers practice of exclusive breastfeeding. However, pressure from family members to supplement breastfeeding with formula milk, fear, tight work schedule and inadequate nutrition were the barriers to exclusive breastfeeding among Adolescent mothers. The study recommended education programs for adolescent mothers and their families about the benefits of exclusive breastfeeding. Also, counseling services to address the specific concerns of adolescent mothers should be available I promote exclusive breast feeding among adolescent mothers.

Keywords: Exclusive breastfeeding, Adolescent mothers, Maternity Hospital.

355. Shamim, A. (2024). Nurses' knowledge, attitudes, and practices on enteral feeding practices for patients admitted to the intensive care units of the national referral hospital in Dar es salaam, Tanzania. Muhimbili University of Health and Allied Sciences.

ABSTRACT

Background: Enteral nutrition is a crucial method for providing essential nutrients to critically ill patients who cannot consume food orally. Nurses administer enteral feeds, delivering a balanced mix of carbohydrates, proteins, fats, vitamins, and minerals.

However, they face challenges in ensuring they provide these feeds in an individualized manner, despite their other roles in healthcare settings. This places a significant challenge on nurses to ensure that they can provide the prescribed enteral feeds in a manner that is individualized to each patient's needs. **Objective:** To assess nurses' knowledge, attitudes, and practices on enteral feeding for critically ill patients admitted to the ICUs of the national referral hospital in Dar es Salaam Tanzania**Methodology:** A cross-sectional study was conducted to evaluate nurses' knowledge, attitudes, and practices on enteral feeding for critically ill patients. 122 nurses were recruited randomly from Muhimbili National Hospital, Muhimbili Orthopedic Institute, and Jakaya Kikwete Cardiac Institute. Data were collected using structured questionnaires and analyzed using SPSS version 27. Bivariate and multivariate logistic regression was conducted to determine demographic characteristics associated with KAPs on enteral feeding for critically ill patients. All independent variables with $p \leq 0.2$ in univariate regression models were included in the multivariate logistic model. Independent variables with $p < 0.05$ were considered statistically significant. **Results:** The majority of respondents were female 69(56.9%), with a mean age of 34.61 years (SD ± 6.367) and an age range from 25 to 35 years. 56(45.9%) had adequate knowledge of enteral feeding and 68(55.75 %) had positive attitudes toward enteral feeding. 97 (79.5%) were competent to practice enteral feeding. After adjusting for all factors, training for enteral feeding was significantly associated with knowledge (AOR = 0.388, 95% CI: 0.17-0.88, p = 0.024). Also, working position was significantly associated with attitudes towards enteral feeding (AOR = 15.46, 95% CI: 1.98-120.7, p = 0.009). In addition, age was significantly associated with practices of enteral feeding (AOR = 0.13, 95% CI: 0.01-0.98, p = 0.048). Furthermore, marital status was significantly associated with practices of enteral feeding of critically ill patients (AOR = 0.352, 95% CI: 0.14-0.90, p = 0.03). **Conclusion and recommendation:** The study shows that despite positive attitudes and competence, most intensive care unit nurses lack knowledge about enteral feeding. To improve care and reduce complications, nurses should regularly attend in-service training, seminars, workshops, and dietitian presentations. Educators should focus on innovative strategies, technologies, evidence-based practices, standardized care guidelines, and appropriate training for ICU staff to

enhance patient care and recovery. **Keywords:** Nurses, Knowledge, Attitudes, Practices, Enteral feeding, Enteral nutrition, Intensive Care Unit.

356. Shamte, K. (2024). Maternal factors associated with stunting among children under the age of 2 years in Iringa DC. Muhimbili University of Health and Allied Sciences.

ABSTRACT

Background: Stunting in children below the age of 2 years is still a great public health concern, especially in developing countries. Globally, 148.1 million children aged 0-59 months are undernourished with an estimated prevalence of 22.3% in the year 2022. In Africa region 56.2 million children aged 0-59 months were stunted in 2022. The prevalence of stunting in South of Sahara Africa was reported to be 30-40%, differing per country or urban against rural settings. In Tanzania, 30% of under-five children had retarded growth and 9% were seriously short. Stunting in children is linked with increased childhood disease death; poor physical growth reduced cognitive function, poor school performance, affected reproductive ability, and accelerated the possibility of long-term disease in the future. **Objective:** This study aims to determine the prevalence and maternal factors associated with stunting among children under the age of 2 years in Iringa DC. **Methodology:** An analytical facility-based cross-sectional study was conducted determining and assessing maternal factors associated with stunting in Iringa DC from April 2024 to May 2024. We determined stunting using the Emergency Nutrition Survey (ENA 2020). The categorical variables were summarized using frequencies and percentages and the quantitative variables were summarized using median (interquartile range [IQR]). Modified Poisson model with a robust standard error used to identify independent risk factors of stunting. Prevalence ratios and their respective 95% Confidence Interval were reported. **Results:** The majority 385 (75.2%) were mothers aged 20-34, and the median (inter-quartile range [IQR]) age was 29 (IQR; 24-32) years. Nearly half of mothers, 246 (48.1%) had completed primary education. Married mothers accounted for 263 (51.4%) of the participants. Most of the study

participants, 321 (62.6%), were engaged in agricultural activities, and almost three quarter 379 (74.0%) resided in rural areas. Of the 512 mothers with children under 2 years who were analyzed, 32.8% had stunting. Reported risk factors for stunting among those under 2 years included not consuming certain foods (such as eggs, milk, and meat) due to cultural prohibitions during pregnancy (Adjusted Prevalence Ratio (aPR)=1.05, 95% Confidence Interval (CI) = 1.01-1.09); alcohol consumption during pregnancy (aPR=1.07, 95% (CI) = 1.02-1.12); and never consumed iron-folic acid (IFA) supplements during pregnancy (aPR=1.49, 95% confidence interval (CI) = 1.29-1.73). However, a protective factor was high maternal autonomy (aPR=0.93, 95% (CI) = 0.86-0.98). **Conclusion:** The prevalence of stunting was generally higher as compared to the National target but lower compared to Iringa region (56.9%). We found that maternal dietary intake, such as not consuming certain foods (eggs, milk and meat) due to cultural prohibitions during pregnancy, alcohol consumption during pregnancy, and high maternal autonomy, were associated with stunting among children under the age of 2 years. Tanzania is among the countries with a large percentage of stunted children, and the country is working toward achieving the National goal of reducing stunting by 24% by 2025. However, more effort such as adequate funds allocations from the government, strong linkage from other sectors, removing gaps in data generation and utilization at all levels and addressing the burden of malnutrition are required to meet the national goal.

357. Shayo, J. (2024). Timing of discharge post caesarean section and associated reported maternal and perinatal symptoms at Mbagala Rangi Tatu Hospital. Muhimbili University of Health and Allied Sciences.

ABSTRACT

Background: The decision and time of discharge after caesarean delivery are important to ensure women have optimal recovery. The Tanzania Postnatal Care Guideline recommends that women who had a caesarean section delivery spend the first 72 hours as in-patients for close monitoring. Early discharge is associated with maternal or perinatal re-admission and other complications with a potential for adverse outcomes. To the best

of our knowledge, there are no studies on the timing of discharge after caesarean birth and maternal complications in the short term in Tanzania, especially in facilities that have high rates of caesarean section. **Aim:** This study aims to determine an association between discharge time following caesarean birth and reported short-term maternal and perinatal complications in a high-load urban hospital. **Methodology:** A cross-sectional study was done from August to November 2023. Women who had been delivered by caesarean section at Mbagala Rangi Tatu and were attending the postnatal clinic on the 7th day were recruited and interviewed. Data was entered, coded and analyzed using the IBM SPSS version 26 computer program. Descriptive statistics were used to describe social demographic and clinical characteristics, and chi-square was used to assess an association between the time of discharge and reported maternal and perinatal symptoms **Results:** A total of 370 participants were recruited of, 8 (2.2%) and 9 (2.4%) reported having severe maternal symptoms required admission, and severe perinatal symptoms required re-admission, respectively. Women who were discharged ≥ 72 hours had a higher proportion of having newborns with severe perinatal symptoms requiring admission (13.0%) compared with those discharged in < 72 hours (1.7%) (p 0.014). Women discharged ≥ 72 hours had a higher proportion of severe reported maternal symptoms required admission (21.7%) compared with those discharged in < 72 hours (0.9%) (p<0.001). **Conclusion:** Following an uncomplicated caesarean section, a brief hospital stay (less than 72 hours) was not linked to maternal or perinatal readmission or other issues that could have a negative impact**.** Therefore < 72 hours discharge can be adopted in uncomplicated caesarean section and considered as an alternative to those women who discharged at ≥ 72 hours.

358. Shayo, V. (2024). Verification of a sars cov-2 surrogate virus neutralization assay in covid 19 recovered and sars cov-2 vaccinated clients in Dar es salaam. Muhimbili University of Health and Allied Sciences.

ABSTRACT

Background: The COVID-19 pandemic caused significant economic losses and a high death rate throughout the world. SARS-CoV-2 neutralizing antibodies, which play a key role in immunity can be screened using cell-culture-based infection experiments employing either wild-type or pseudo-typed viruses. However, these assays are labor-intensive and need suitable biosafety facilities, and standardization is challenging. In contrast the recently developed and commercially available surrogate viral neutralization tests- Enzyme Linked Immunosorbent Assay (sVNT-ELISA) are safe, easy to perform and are reliable. **Broad objective:** To verify the performance of a SARS COV-2 surrogate virus neutralization assay in COVID-19 recovered and SARS CoV-2 vaccinated population in Dar Es Salaam. **Materials and Methods:** A laboratory-based cross-sectional study was conducted at Muhimbili University of Health and Allied Sciences in Dar Es Salaam, Tanzania between February and June 2024. A total of 189 EDTA plasma samples stored at -800C with known neutralizing antibody titers were heat inactivated, at 56ºC for 45 minutes, prior to further processing. The sVNT (Gen-Script cPass™, USA, L00847) used to detect neutralizing antibodies and then compared with Pseudo-type virus Neutralization assays obtained values. The receiver operating curve (ROC) was constructed to evaluate true positive rate against the false positive rate at various threshold settings, the overall performance, sensitivity, specificity, and 95% confidence intervals (CI) were computed by using the Statistical Package for Social Sciences (SPSS) version 26. The coefficient of variance and Standard deviation were calculated to evaluate the repeatability and reproducibility of sVNT. **Results:** The sensitivity, specificity, positive predictive value (PPV), and negative predictive value (NPV) of the SARS COV-2 sVNT-ELISA were 89.7%, 98.4%, 99.1%, and 82.7% respectively. The agreement between the two tests was good (a Cohen's kappa of 0.841) and there was a high correlation between them (a Spearman's correlation of 0.849 (P-value <0.0001). The area under the curve (AUC) was 0.970, with a 95% confidence interval (0.941 to 0.998). Also, sVNT-ELISA showed greater sensitivity to detect neutralizing antibodies in SARS CoV-2 vaccinated individuals (77.4%) compared to infected individuals (76.4%) (P-value <0.0001). **Conclusion:** SARS CoV-2 sVNT has demonstrated excellent diagnostic performance for detection of neutralizing antibodies

following infection or vaccination of SARS CoV -2. Hence, can be used as an alternative to pseudovirus neutralization assays, particularly in resource-constrained countries like Tanzania, while maintaining comparable accuracy.

359. Shemula, R.S. (2024). Active surveillance on iodinated contrast media-induced reactions and associated factors among patients undergoing radiology diagnostic and intervention at tertiary hospitals in Ilala Municipal. Muhimbili university of health and Allied Sciences.

ABSTRACT

Background: Exposure to iodinated contrast medium (ICM), particularly in high doses, poses risks of organ toxicities, especially to the kidneys and cardiovascular system, leading to acute and delayed reactions. Documenting these reactions is vital for patient safety, risk management, pharmacovigilance, and medico-legal considerations. As imaging procedures increase in sub-Saharan Africa, the risk of ICM-induced reactions may rise, yet studies on these complications remain limited in low-resource settings like Tanzania. **Objective:** To assess iodinated contrast media-induced reactions and associated factors among patients undergoing radiology diagnostic and intervention at two Tertiary Hospitals in Ilala Municipal.**Methods:** This observational prospective cohort study, conducted from March to May 2024 in two tertiary hospitals in Ilala Municipal, enrolled 283 patients undergoing iodinated contrast-based procedures. The study utilized the SPSS version 23D statistical package, to analyze the patients' profile, the incidence of Iodinated Contrast Media-induced reactions and to determine the risk factors associated with adverse reaction with a statistical significance set at $p < 0.05$. **Results:** The study included 283 patients. The overall incidence of ICM-induced reactions was 39.2%, with acute reactions such as gastrointestinal (27.9%), neurological (18.0%), and dermatological (13.5%) being common, while delayed reactions were mainly affecting renal function (6.3%). Associated factors included normal weight (RR = 1.445, p = 0.025), overweight (RR = 1.305, p = 0.043), neurological (RR = 1.496, p = 0.007), cardiopulmonary (RR = 1.335, p = 0.045), and oncological conditions (RR =

1.350, p = 0.039), as well as a history of anemia (RR = 1.490, p = 0.003). Diabetes mellitus was protective (RR = 0.540, p = 0.033), whereas stage 2 renal failure was linked to a higher risk (RR = 2.143, p = 0.009). **Conclusion:** ICM-induced reactions were common, with acute reactions more frequent than delayed ones, primarily affecting the gastrointestinal, neurological, and dermatological systems, while delayed reactions impacted renal function. Significant risk factors included BMI, specific clinical indications, and a history of anemia, while diabetes was protective.

360. Shemweta, M.A. (2024). Grayscale and Umbilical Artery Doppler Ultrasound Findings among Pregnant Women with Chronic Illnesses Attending Antenatal Care at MNH. Muhimbili University of Health and Allied sciences.

ABSTRACT

Background: Chronic illnesses in pregnancy are increasing, with the incidence in Germany at 21.3%, India at 10.6%, and Africa at 24.3%, which affects both maternal and fetal health. These conditions cause poor placenta formation with placenta hemodynamic disturbance, fetal complications of low birth weight, congenital malformations and low Apgar score. This study uses grayscale and umbilical artery Doppler ultrasound to evaluate fetal well-being in pregnant women with chronic illnesses. **Objective:** To evaluate the estimated fetal weight, umbilical artery Doppler, and other grayscale findings among pregnant women with chronic illnesses from September 2023 to March 2024 **Methodology:** A 7-month hospital-based study enrolled 155 pregnant women with chronic medical conditions. Data was collected through structured questionnaires of maternal clinic information, grayscale and Duplex color Doppler ultrasounds. Fetal growth restriction was identified at estimated fetal weight (EFW)< 10th percentile and abnormal umbilical artery indices values at > 95th percentile. Fisher's exact test was used to evaluate the association of the variables, together with multivariate analysis to determine the independent factor under the outcome of interest in this study. **Results:** The study enrolled 155 pregnant women with a median age of the participants of 34 years, IQR (31–37) years. The majority of them were married (82.6%) and about 50.3%

had acquired a secondary school education. The key factor strongly associated with intrauterine growth restriction (EFW<10th percentile) is the abnormal plasticity index (adjusted odds ratio (AOR)=20.35, 95% CI: 6.03–68.66, P<0.001*). On the other hand, reversed end-diastolic flow (REDF) and chronic hypertension were independent predictors of intrauterine growth restriction (IUGR) at AOR = 3.56, 95% CI: 1.38–9.18, P<0.001*) for chronic hypertension. **Conclusion:** Reversed end-diastolic flow (REDF) is a strong sonographic predictor of IUGR and chronic hypertension has been shown to increase the risk threefold in our cohort.

361. Shengeza, F. (2024). Visual outcome of patients with open globe injuries and its correlation with ocular trauma score at Muhimbili national hospital. Muhimbili University of Health and Allied sciences.

ABSTRACT

Background: Open globe injury (OGI) is a common cause of preventable unilateral blindness among young individuals. The need to predict visual outcomes following OGI underscores the importance of using the Ocular Trauma Score (OTS), a validated tool in many countries in providing evidence-based counseling to patients on realistic expectations of visual outcomes and judicious resource allocation. There was no retrievable study done in a Tanzanian setting to show the correlation of the visual outcome and Ocular Trauma Score (OTS) among patients with open globe injuries and determine its applicability in predicting visual outcome. **Aim:** To determine visual outcome, its correlation with OTS, and prognostic factors among patients with OGI. **Material and Methods:** A prospective longitudinal observational study that employed a consecutive sampling technique was conducted for one year at Muhimbili National Hospital. The injured eyes were assessed at the initial presentation, 1st, 3rd, and at 6th months post-injury. OTS was computed for all study participants and their correlation with final visual acuity was determined six months post repair. Proportions of final visual acuities in each OTS category in this study were compared for similarities with those predicted by the OTS study using Z-test for proportions and its predicting accuracy

determined. **Results:** A total of 103 participants comprising 103 eyes were enrolled. The majority (83.5%) were males and the median age was 13 (IQR 8, 30) years. More than half of all injuries (54.4%) involved Zone 1 of the globe. The majority of participants (80.6%) had visual acuity (VA) of hand movement (HM) or worse at initial presentation and 42.7% were in OTS category 2. Seventy-one eyes (68.9%) underwent corneal/scleral repair while 32 eyes (31.1%) underwent primary evisceration. Only 55 participants completed six months of follow-up. Twenty-eight eyes (50.9%) had a final VA < 6/60. Poor presenting VA and the presence of hyphema were significantly associated with poor visual outcomes. OTS showed a positive correlation with visual outcome and its predicting accuracy was 56%. **Conclusion:** The visual outcome of OGI was poor. Poor presenting visual acuity and the presence of hyphema were the significant prognostic factors associated with poor visual outcomes. Ocular trauma score showed a positive correlation with final visual acuity in patients with OGI. OTS accurately predicted the visual outcome in more than half of the study participants. **Recommendation:** Ocular trauma score can be used in our setting to predict visual outcomes among patients with OGI. A multicenter study with a large sample size is recommended so as to increase the power of the study.

362. Shokolo, R.J. (2024). The uptake of the COVID-19 vaccine and associated factors among people living with HIV attending a care and treatment clinic at Muhimbili National Hospital in Tanzania. Muhimbili University of Health and Allied Sciences.

ABSTRACT

Introduction: Amid the COVID-19 pandemic, vaccination has become clear as a vital approach for ending the virus's spread. However, COVID-19 vaccine uptake among specific groups, such as People Living with HIV (PLWH) who face compromised immune systems, remains a critical concern**. Objective of the study:** This study aimed to assess COVID-19 vaccination uptake and associated factors among People living with HIV attending the Care and Treatment Clinic at Muhimbili National Hospital in

Tanzania. Methods: The study used a cross-sectional design and applied a quantitative research approach. The study was carried out at Muhimbili National Hospital, from August to September 2023 and utilized a questionnaire with structured questions comprising Likert scale items. A total of 343 Participants were selected using a systematic random sampling technique. Descriptive, bivariate, and multivariate analysis was conducted to determine participants' characteristics and factors associated with COVID-19 vaccine uptake among PLWH. Results: A total of 343 respondents participated in this Study. The majority of 200 participants, 58.3% received the COVID-19 vaccine. Among the participants, those aged 36 to 44 and 45 years and above were statistically significantly associated with vaccination uptake ($p< 0.001$), Perceived benefits ($p< 0.001$), accessibility ($p < 0.001$), and government information ($p< 0.001$) also impacted vaccination uptake. **Conclusion and recommendation:** COVID-19 vaccination among PLWH at MNH is still below optimal. The key individual determinants were age, trust, perceived benefits, and personal beliefs. Moreover, organizational factors, transparency, communication, vaccine accessibility, and the effectiveness of information dissemination from health agencies significantly impact vaccine uptake. Tailored interventions, diversified outreach, and strategic collaborations between health agencies are recommended for improved uptake.

363. Shukuru, N. K. (2024). Factors influencing utilization on modern contraceptives among young women in ItilimaI district, Simiyu regions-Tanzania. Muhimbili University of Health and Allied Sciences.

ABSTRACT

Background: In Tanzania, access to modern contraceptive options and youth-friendly sexual services remains a significant challenge, particularly for young women. The government tries to improve youth-friendly and sexual reproductive health through training health service providers to improve the quality of services however research continues in sub-Saharan African countries including Tanzania. **Objective:** To explores the factors that influence the utilization of modern contraceptive services by young

women in the Itilima district, Simiyu region, Tanzania. **Method:** An exploratory case study design employing qualitative methods was used. This approach allowed for in-depth insights from participants at a specific point in time. Data were gathered through in-depth interviews with 24 participants and analyzed using deductive thematic approaches with the NVIVO software suite, version 14. **Results:** The study found that sociocultural factors, including traditional norms and social stigma, deter young women from seeking family planning services. Cultural beliefs that view family planning as a violation of societal norms, along with spousal influence, were identified as significant barriers. Additionally, positive interactions with healthcare providers encouraged service use, whereas negative experiences served as deterrents. **Conclusion:** The study underscores the various factors that contribute to the low utilization of youth-friendly reproductive services, including cultural beliefs, social stigma, spousal influence, provider perceptions, and service availability. It highlights the need for improved sexual and reproductive health services and education, with a particular focus on modern contraception and the involvement of community leaders. **Recommendations:** Due to these results addressing social stigma and exclusion and enhance community readiness to support young women in utilizing youth-friendly services, the district health management team need to work with sexual reproductive health services implementing partners to design and implement community sensitization interventions focusing on sexual reproductive health services and contraceptives in particular.

364. Silim, S.Y. (2024). Assessing adherence to infection prevention and control standard operating procedures in phlebotomy among health laboratory practitioners in Dar es salaam Regional Referral Hospitals, **Muhimbili university of health and Allied Sciences.**

ABSTRACT

Background: Infection prevention and control (IPC) is a systematic approach to reduce healthcare-associated infections (HAI). HAI accounts for 90% of admissions in developing nations annually while healthcare-associated infections range from 2.5% to

14.8% in Africa. Tanzania introduced IPC Standard Operating Procedures in 2020 to ensure worker safety and quality health services. However, there are limited studies specifically evaluating the compliance of health laboratory practitioners with safe phlebotomy practices as per IPC standard operating procedures to determine not only the level of compliance but also explanatory individual and organizational facilitators and barriers. **Objective:** To evaluate health laboratory practitioners' adherence to safe phlebotomy procedures as per Infection Prevention and Control standard operating procedures (IPC SOPs) at Dar es Salaam Regional Referral Hospitals**. Methods:** The researcher conducted a cross-sectional descriptive study involving laboratory managers and practitioners at Dar es Salaam RRHS. The study involved 303 patient observations in a quantitative approach using an observation checklist as a tool, and 12 participants in a qualitative approach using in-depth interviews, convenient and purposive sampling were employed **Results**: Only 8.6% of health laboratory practitioners adhered **to** the IPC SOPs. There was minimal compliance with the recommendations to use gloves 59.7%, disinfection of venipuncture sites 13.5%, and before and after procedure hand hygiene 19.5% and 4.3% consecutively, the study show the significant relationship between training, designation and adherence to IPC SOPs (P value<0.05). Experience of the personnel, availability of IPC SOPs, and QMS made it easier to follow safe phlebotomy protocols. Poor attitude of personnel, poor working environment, insufficient supplies, and a high workload were among the obstacles toward adherence to safe phlebotomy procedures. **Conclusion:** The study has revealed low adherence to safe phlebotomy practices, suggesting a serious need for training and behavioral change interventions at different health care facility levels.

365. Silvestry, L.M. (2024). Perceived barriers to use of vacuum-assisted birth among clinicians at Muhimbili National Hospital, Tanzania. Muhimbili University of Health and Allied Sciences.

ABSTRACT

Background: Vacuum-assisted birth (VAB) has been reported as key in saving the lives of the mother and child during delivery, especially when there are indications such as prolonged second stage of labor, maternal exhaustion, or signs of fetal distress. However, the practice of VAB is low, and many women give birth through the caesarian section. The trend shows that caesarean section (CS) deliveries are on increase, although many of these women could be delivered by vacuum extraction. **Objective:** The study explores perceived barriers to performing VAB among clinicians at MNH in Dar es Salaam, Tanzania. Materials and Methods: The descriptive exploratory qualitative study design was used, whereby 12 in-depth interviews (IDIs) were conducted with clinicians who were purposively recruited for the study. The discussion was guided using an interview guide and were audio recorded with field notes taken. The study was guided by the Social Ecological Model and data was inductively analyzed through the thematic analysis **Results:** Two themes emerged from the data: perceived barriers related to the organization and the individual clinician. Perceived barriers related to organization were lack of equipment to perform VAB, ineffectiveness of equipment, team dynamics in decision making when to use VAB, accessibility and usability of guidelines and SOPs, lack of supportive supervision, and mentorship. The individual barriers were apprehension regarding adverse outcomes and limited skills and experience in performing VAB. **Conclusion and Recommendation:** Organizational and individual barriers are reported to prohibit the performance of VAB among the clinicians. Upgrading clinician skills in using VAB, use of guidelines and SOPs, supply of functioning equipment, and involving clinicians in decision-making will promote the performance of VAB.

366. Simon. F. N. (2024). Perceptions on cervical cancer screening services uptake among women of reproductive age in Ubungo municipal in Dar es salaam, Tanzania: hospital based qualitative study. Muhimbili University of health and allied sciences.

ABSTRACT

Background: Cervical cancer is a public health concern in Tanzania. In 2018, Tanzania had a high mortality rate (42 deaths per 100,000) and the fourth-highest incidence of cervical cancer in the world with 59.1 new cases per 100,000 women. Screening of cervical cancer has been proven in developed countries to reduce the incidence and mortality due to cervical cancer. In Tanzania, there is low uptake of cervical cancer screening which leads to most women being diagnosed with cervical cancer at an advanced stage hence complicating the treatment and slowing recovery. Aim of the study: The study explored the perceptions of women of reproductive age on cervical cancer screening uptake services in Ubungo Municipal in Dar Es Salaam, Tanzania. **Materials and Methods:** The study utilized an exploratory qualitative study design. A total of 16 participants were purposefully recruited in the study. Data was collected by in-depth interviews from women who had never been screened for cervical cancer. Data was audio recorded and transcribed verbatim. A thematic approach was used to analyze data. **Results:** Four themes surfaced in the understanding of cervical cancer: a general understanding of cervical cancer, barriers to cervical cancer screening, facilitators for screening uptake, and recommendations for improving cervical cancer screening services. The study revealed personal, facility, and national-related factors that hinder women from getting screening for cervical cancer. Misconceptions and a lack of communal disclosure also emerged as notable barriers. **Conclusion:** This study highlighted significant gaps in participant perception and misconceptions about cervical cancer screening among women, emphasizing the need for targeted education and awareness programs. To improve cervical cancer screening uptake in Tanzania, we recommend enhancing healthcare provider training, increasing the availability and affordability of screening services, and conducting continuous education campaigns at community and healthcare facility levels.

367. Simsokwe, S.G. (2024). Factors influencing Tuberculosis case identification at primary healthcare facilities in Kalambo district council, Rukwa region. Muhimbili University of Health and Allied Sciences.

ABSTRACT

Background: Tuberculosis (TB) is among the highly infectious diseases that cause significant morbidity and mortality in the world. Globally, 10.6 million people had TB in 2021, higher compared to 10.1 million people in 2020. In Tanzania TB case identification increased from 85,597 cases in 2020 to 87,415 cases in 2021, whereby 63% of the national TB case identification in 2021 was contributed by 11 regions with larger urban areas and fishing activities, and 37% was contributed by 20 regions including Rukwa. TB case identification in Tanzania is about 59% that means there is 41% of people with TB infection not yet identified. **Objective:** This study aimed to explore the factors influencing TB case identification at primary healthcare facilities in Kalambo district council, Rukwa region. **Methods:** This was a phenomenological qualitative study. The in-depth interview guide was used to collect data. A purposive sampling was used to select 17 healthcare workers to participate in this study. Interviews were audio-recorded and transcribed verbatim. Thematic Analysis approach was used to analyze study data. **Findings:** The study revealed that healthcare workers-related factors influencing TB case identification include high workload compared to the low number of health workers available to conduct TB screening, lack of TB prioritization and perception of TB severity, low morale among healthcare workers to work on TB, Lack of formal training on TB, non-compliance by healthcare workers to TB guidelines and selective TB screening and low community outreach. Also, infrastructure-related factors influencing TB case identification include a lack of healthcare facilities such as a lack of dedicated rooms for TB, lack of TB guidelines, and lack of laboratory. The healthcare workers revealed factors like transport challenges and poor infrastructures, limited space at the facilities impacts on TB case identification. Referral system related factors influencing TB case identification, participants explained the limited availability of motorcyclists for TB sample transportation and long distance to access health facilities. vi **Conclusion:** The findings suggest that increasing TB knowledge through formal trainings, capacitating healthcare workers to conduct community outreaches and motivation to healthcare workers to work on TB can improve TB case identification. Also, improving the infrastructures such as diagnostic rooms, building health facilities to serve the distant

communities, improving transport systems for easy access of health facilities can increase the identification rate of TB cases at primary health facilities.

368. Sobbo, S.N. (2024). Would utilization of Urethral stricture score (U-score) predict outcome for the patients undergoing anterior urethroplasty at Muhimbili National Hospital. Muhimbili University of Health and Allied Sciences.

ABSTRACT

Background: Urethral stricture is a common condition, with a higher incidence in developing countries(1). A large variety of surgical procedures have been developed for the treatment of anterior urethral strictures; one tool that is used to determine the type of surgery needed for different stricture patients is called the Urethral Stricture Score (U-SCORE). The U-SCORE utilizes the stricture's length, location, number (of), and aetiology to define and quantify its attributes, enabling preoperative prediction of the required surgery's complexity and treatment outcome. At MNH, there have been a large number of patients presenting with urethral strictures with different aetiologies, mostly due to a traumatic, iatrogenic, or infective nature. Urethroplasty is one of the most common operations performed at MNH. The paediatric surgery unit and the department of urology performed 65 anterior urethral stricture repairs (urethroplasty) from January 2022 to October 2022, with patients ranging in age from 5 to 97 years. In current MNH practice, there is no formal method of grading stricture complexity to guide the choice of surgical intervention and predict the urethroplasty outcome. This study aimed to assess the surgical complexity and outcome of anterior urethral stricture repair using the U-Score for MNH patients. **Aim:** To evaluate the surgical complexity and outcome of anterior urethral stricture repair using the U-Score for patients undergoing anterior urethroplasty at Muhimbili National Hospital. **Methodology:** We conducted a retrospective cross-sectional study, reviewing patient records from January 2018 to December 2022, which included patients diagnosed with anterior urethral stricture who underwent anterior urethroplasty at MNH. We extracted the length, location, number, and aetiology of the stricture from patients' records, and assessed the duration of hospital stay,

surgical complexity, and postoperative complications as outcomes of interest. We calculated the U-score, performed an association between the U-score and the outcome of interest using the chi-square test, and assessed the adjusted predictor variable effect using logistic regression. **Results:** We retrieved 184 patient files, of which 179 (97%) met all inclusion criteria. The median age was 51 ± 19.8 years. Patients with co-morbidities were 36 (20.2%), among which 8.4% had hypertension, 6.7% had more than one comorbidity, 3.4% were seroconverted patients (AIDS), and 1.7% had diabetes mellitus. There were 165 patients with a low U-score, while 14 patients had a high U-score. However, 167 patients underwent low-complexity urethroplasty (EPA, BMG, and augmented anterior urethroplasty) with a mean U-score of 4.7, while 12 patients underwent high-complexity urethroplasty (double buccal mucosal graft, flap, and graft/flap combination) with a mean score of 7.1. Two patients with a high U-score underwent low-complexity urethroplasty. A higher U-score was predictive of higher surgical complexity (P value < 0.05). Also, high U-score was significantly associated with early postoperative complications, as there was a consistent increase in the risk of developing early postoperative complications with each additional U-score point. **Conclusion:** We report an association between a higher U-score and anterior urethroplasty outcomes, indicating a substantial influence of the U-score on its predictive capacity for surgical complexity and postoperative complications for patients with anterior urethral stricture. Therefore, the U-score can aid in risk stratification and perioperative counselling.

369. Solomon, D. (2024). Assessment of the factors influencing implementation of systematic Tuberculosis screening at health facility level in Temeke District. Muhimbili university of health and Allied Sciences.

ABSTRACT

Background: Tuberculosis (TB) remains a global health challenge, with millions of cases going unreported annually. Significant gaps in case detection, further worsened by the COVID-19 pandemic, persist. In Tanzania, a high-burden TB country, 100,000 cases are missed yearly. Despite efforts to implement systematic TB screening, challenges

persist, including data recording deficiencies and insufficient diagnostic resources. Temeke District, with the highest TB cases in 2022, presents a critical research gap as the effectiveness of systematic TB screening in such settings is inadequately understood. **Objective:** The study aims to evaluate the implementation of systematic TB screening at health facility in Temeke District. It focuses on determining the proportion of eligible individuals were reached, assessing documentation fidelity, and identifying operational facilitators and barriers. **Materials and Method:** This study employed a mixed-methods, convergent parallel approach to evaluate the implementation of systematic TB screening at health facilities in Temeke District. For the quantitative component, a cross-sectional design assessed the proportion of eligible individuals registered in the presumptive TB screening register and the completeness of documentation within the TB register. Concurrently, the qualitative component explored the experiences and perceptions of healthcare workers and patients using a phenomenological design. It encompassed multistage sampling for quantitative analysis and purposive sampling for qualitative insights, targeting a sample size of 384 records for the quantitative component and 11 participants for the qualitative component. A structured data abstraction form for quantitative data and a semi-structured interview guide for qualitative data were used. Quantitative data was analysed descriptively, while qualitative responses were content analysed to identify key facilitators and barriers. **Results:** During the study period from April 2023 to March 2024, the hospital registry recorded 402,119 patient visits, with 51.5% being first-time visits. Among these, the median age of patients was 35 years, IQR of (4 – 49) and 11.29% were related to upper respiratory infections. The health facility Presumptive TB Register identified 8,464 patients as presumptive TB cases, of which 26.3% were confirmed through bacteriological tests. The highest confirmation rates were observed in Mbagala Rangi Tatu and Mbande hospitals at 37% and 36%, respectively. Only 14.48% (n=8464) of patients displaying TB symptoms were registered in the presumptive TB register. Males demonstrated a significantly higher registration rate of 19.17%, (n=5397) ($p<0.001$), compared to females), and the highest registration rate was noted significantly among older adults over 60 years at 56.32% (n=1790) ($p < 0.01$). The overall documentation completeness for essential TB variables was at 21.60% (95% CI:

20.72% - 22.47%), with particular challenges in the documentation of the TB Score Chart, which recorded a completeness of 14.33% (95% CI: 11.74 - 16.91). Education and awareness campaigns, supervision by district and regional coordinators, training and multisectoral collaboration were identified facilitators. However, barriers such as high workload, staffing shortages, and historical TB program perceptions as a vertical program negatively impacted the efficiency and thoroughness of TB screening processes. **Conclusion:** There is a significant gap in the implementation of systematic TB screening, with variations across health facilities due to factors like resource availability and staff training. Women were particularly affected, reflecting broader systemic barriers. The study highlighted low data completeness in TB registers, particularly for TB score charts, suggesting a need for integrated electronic data systems and ongoing training. **Recommendations:** The Ministry of Health should enhance healthcare worker training, especially in documentation. Health facility management should implement supervision and mentorship programs. A digital TB screening system integrated with existing health records should be developed, while governments should focus on outreach to reduce stigma and improve health-seeking behaviors. Regular evaluations of TB screening programs are essential to refine TB control strategies.

370. Somani, D.V. (2024). Clinical characteristics, outcome and its associated factors among adult oncological patients presenting to emergency department of tertiary hospital in Tanzania. Muhimbili University of Health and Allied Sciences.

ABSTRACT

Background: The worldwide burden of cancer is predicted to rise, especially in developing nations. Patients with cancer have a significant risk of developing life-threatening complications and are becoming a larger part of the population presenting to the Emergency Department. Information on the primary complaints, clinical presentations, and outcomes of Emergency Department visits by cancer patients in low-middle income countries is scarce. **Objective:** To determine clinical characteristics, outcomes, and associated factors associated with hospital mortality among adult

oncological patients presenting to the emergency department of a tertiary hospital in Tanzania. **Methodology:** A prospective cohort study was conducted from November 2023 to January 2024 at the Emergency Department at Muhimbili National Hospital. Patients were included if they had a previously diagnosed oncological disease and consented to participation. Demographic data, chief complaint, clinical characteristics, laboratory investigations, management at emergency department, Eastern Cooperative Oncology Group (ECOG) status and disposition were collected. National Early Warning Score was calculated retrospectively from initial vital signs (low score 1–4, medium 5–6, high score ≥7; RED score = extreme variation (3 points) in a single physiological parameter). Patients were followed in the hospital until discharge or death for 7 days. The primary outcome was 24-hour mortality, and the secondary outcome was 7 days mortality. Univariate and multivariate analysis was used to determine the association between patient and disease characteristics and mortality at 7 days. **Results:** During the study period, 239 oncological patients were enrolled (2.7% of all ED visits); three were lost to follow-up, leaving 236 for analysis. The mean (±SD) age was 55 ± (14) years, 56.4% were female, 34% had at least one comorbidity and 47.5% had ECOG status of 3 and above. The most common ED chief complaints were body weakness 86 (36.4%), pain 66 (28.0%), and shortness of breath 46 (19.5%). Among those tested for labs, 64 (33.7%) had an abnormal point of care (POC) random blood glucose (RBG) and 141 (78.8%) had an abnormal POC Sodium. The most common cancers were the esophagus (24.6%), cervical (17.4%), and breast (11.9%). Forty seven percent had an ECOG status of 3 or greater and 50% were anemic. At 24 hours, 13 patients (5.5%) had died; at 7 days, a total of 31 patients (13.1%; 95% CI 9.1-18.1) had died. Univariate analysis revealed that patients with a comorbidity (cOR 2.19; 95% CI 1.03-4.65 p 0.042), National Early Warning Score - RED (cOR 2.76, 95% CI 1.24-6.13 p0.012) and Poor ECOG Status > 2 (cOR 7.28; 95% CI 3.17-16.73 p<0.001 had higher odds of mortality within 7 days. Age, sex, time of arrival at the emergency department, and tumor location were not associated with 7-day mortality. In multivariate analysis, RED National Early Warning Score was independently associated with mortality within 7 days (aOR 5.90 95% CI: 2.49-13.94, p<0.001.) **Conclusion:** Cancer patients account for at least 2.7% of

all visits to the emergency department of a Muhimbili National Hospital, Tanzania and the overall mortality rate for 7 days was 13.1%. Notably esophageal cancer was the most common, suggesting an overlooked disease in our setting. The prevalence of esophageal, cervical cancer and breast suggests the need for more widespread screening. While ECOG status and comorbidity were associated with mortality in univariate analysis, only a RED National Early Warning Score was found to be an independent predictor of hospital mortality.

371. Stewart, E. (2024). Prevalence and underlying medical conditions associated with pericardial diseases among patients undergoing echocardiography at Jakaya Kikwete cardiac institute and Muhimbili national hospital. Muhimbili University of Health and Allied Sciences.

ABSTRACT

Background: Pericardial diseases represent a wide range of clinico-pathological conditions characterized by damage to the pericardium. Its etiology, which includes both infectious and noninfectious, varies depending on demographic parameters and comorbidities. Tuberculosis (TB), often associated with Human Immunodeficiency Virus (HIV), is the predominant cause in developing countries, while viral and idiopathic pericarditis are known as main etiologies in developed countries. Its prevalence has been increasing in Sub Saharan Africa especially during this era of HIV pandemic where TB is common. There has been no local published data regarding pericardial diseases, clinical characteristics of patients, its infectious and non-infectious causes other than individual studies on TB/HIV and pericardial diseases. **Objective:** The main objective was to determine the prevalence and underling medical conditions associated with pericardial diseases among patients undergoing Echocardiography at Muhimbili National Hospital (MNH) and Jakaya Kikwete Cardiac Institute (JKCI). **Materials and Methods:** An analytical, prospective cross-sectional study was conducted over four months at MNH and JKCI, involving the consecutive recruitment of patients undergoing echocardiography for various indications until a sample size of 1,729 was achieved.

Structured questionnaires were used to obtain data which included social demographic characteristics, clinical characteristics, laboratory, radiology, and echocardiographic parameters. Data were analyzed using SPSS version 23. Binary logistic regression identified underlying medical conditions for pericardial diseases, with variables having a p-value <0.2 in univariate analysis included in multivariate analysis for confounding adjustment. A p-value <0.05 indicated statistical significance. **Results:** A total of 1,721 patients were enrolled in the study, with a mean age of 46 ± 23 years; 53.6% of the participants were women. Hypertension was the most prevalent echocardiographic indication, observed in 61.3% of patients. The overall prevalence of pericardial diseases was 6.4%, with 110 patients diagnosed. Pericardial effusion was the most common form, occurring in 96 patients (87.3%), including 6 with tamponade. Other forms included effusive constrictive pericarditis (8.2%) and constrictive pericarditis (4.5%). Heart failure (HF) was the predominant underlying medical condition, identified in 54 patients (49.1%, AOR:6.4, $p < 0.001$) with pericardial diseases, where non ischaemic cardiomyopathies were the leading cause (25.9%). Tuberculosis was the second most common underlying medical condition, affecting 23 patients (20.9%, AOR: 5.1, $p < 0.001$). Approximately one-third (39 patients) had multiple underlying medical conditions, with 30 of these having HF as a contributing condition. Other identified underlying medical conditions included congenital heart diseases (14.7%, AOR: 7.4, $p < 0.001$), malignancies (10.9%, AOR: 6.2, $p < 0.001$), pulmonary hypertension (10.9%, AOR: 1.7, $p= 0.057$), post-cardiac injury syndrome (9%, AOR: 6.0, $p < 0.001$), and autoimmune diseases (3.6%, AOR: 3.4, $p = 0.019$). Multivariate analysis revealed significant associations between all these underlying medical conditions and the occurrence of pericardial diseases. **Conclusion:** Pericardial diseases are relatively common among patients undergoing echocardiography for various indications at JKCI and MNH. Heart failure followed by Tuberculosis are the predominant underlying medical conditions for pericardial diseases among these patients. Pericardial effusion in its mild severity is the commonest type of pericardial disease. **Recommendations:** The finding that almost one-third of patients with pericardial diseases had more than one underlying medical condition and heart failure being one of them, had highlights the need for both inclusive and specific

therapeutic approaches, including primary prevention, to address the interdependence of cardiovascular diseases, other systemic illnesses, and their effects on the pericardium. Keywords**:** Pericardial Diseases; causes; underlying medical conditions.

372. Sugut, J. (2024). Incidence, predictors and outcomes of blunt cardiac injury among trauma patients presenting to emergency department in Tanzania. Muhimbili University of Health and Allied Sciences.

ABSTRACT

Background: Blunt cardiac injury (BCI) incidence varies due to non-specific presentation and lack of diagnostic clinical gold standard. Standard of care in BCI screening involves use of electrocardiogram (ECG), troponin and echocardiogram (ECHO) but is often not done in Low- and Middle-Income Country (LMIC) despite high trauma burden. It is therefore uncertain whether we should use scarce resources to screen for BCI in this entity of patients with BCI among polytrauma or isolated blunt chest trauma. Moreover, it was not known whether patients who have abnormal findings on these tests in Emergency Department (ED) will receive a definitive test like echocardiogram and/or cardiac monitoring once admitted. We therefore aimed to do this sudy with the goal of developing a standard algorithm to guide use of scarce resources in LMIC to target BCI screening. **Objectives:** To establish the incidence, predictors and outcomes (48hour and 7-day) of blunt cardiac injury among patients with polytrauma or isolated blunt chest injury who attended the Emergency Department of a Tertiary Hospital in Tanzania. **Methods:** Prospective observational cohort study between September 2023-June 2024, with consecutive enrollment of polytrauma or isolated blunt chest trauma patients from September 2023 to February 2024 at the ED of Muhimbili National Hospital and Muhimbili Orthopedic Insititute in Tanzania. BCI was defined as abnormal ECG and elevated troponin. All patients received ECG and if abnormal, troponin was done. Patients meeting BCI criteria were followed up at 48 hours and 7 days after disposition for death and composite adverse events (Intubation for airway protection and/or mechanical ventilation, hypotension, cardiorespiratory arrest resuscitated).

Logistic regression analysis was performed to identify independent predictors of BCI. **Results:** Seventy three of 315 patients screened had BCI, an incidence of 23.2% [95% CI: 18.6 %- 28.2%]. BCI patients had a median age 31years (IQR: 22.5 – 39.5), and were predominantly male 65(89%). Most were polytrauma 68(93.2%) with 57 (78.1%) involved in motor traffic accidents. Twenty four-hour cardiac monitoring was performed in 30 (41.1%) patients while ECHO was performed in one. Mortality at 48hours was 6.8% and 9.6% at 7 days. A composite adverse event at 48hours and 7 days was 39.7% and42.5%respectively. Tachycardia on ED arrival, initial presenting GCS ≤12 and lung contusion were independent predictors of BCI ($p<0.05$). **Conclusion:** There is a significant incidence of BCI among polytrauma/isolated blunt chest trauma in our setting, suggesting the need to include BCI screening and cardiac monitoring guidelines in our trauma algorithms. Predictors of tachycardia, initial presenting GCS≤ 12 and lung contusion can be used to target screening to conserve resource use.

373. Sukka, S. (2024). A cost analysis of household contact investigation among individuals with tuberculosis in urban settings; A case of Ilala municipal, Dar es salaam. Muhimbili University of Health and Allied sciences.

ABSTRACT

Background: The prevalence of tuberculosis (TB) is increasing globally, with a significant burden in low- and middle-income countries. Tanzania, as one of the low- and middle-income countries is no exception to the tuberculosis burden, with a significant gap in TB screening and diagnosis, particularly in the bustling urban center of Dar es Salaam. Increasing tuberculosis case notification through household contact investigation is one of the cornerstones of tuberculosis control. The strategy has proven to have positive outcomes but the evidence on the cost of implementing is still limited, especially in urban settings. Therefore, this study aims to conduct a thorough cost analysis of household contact investigations among individuals with TB in Dar es Salaam. **Methods and Materials** A cross-sectional descriptive study was employed to conduct a cost analysis of tuberculosis household contact investigation in Dar es Salaam, Tanzania. The

study aimed to select diverse settings based on the tuberculosis burden. A process map was conducted to identify the activities, resources, and personnel involved, costing data was collected through interviews, and some data, such as utilities, supplies, and contracted services, were obtained from the registers and health management information systems provided by the medical officer in charge. The costs were analyzed using Microsoft Excel, and a detailed breakdown of costs by category and sub-category was provided. Equipment costs were annualized based on their useful lives, assuming linear depreciation. All cost data was reported in 2024 Tanzanian shillings and US Dollars. **Results** The unit costs of detecting tuberculosis cases using household contact investigation at three different facilities; Mnazi Mmoja Hospital, Ukonga Magereza, and Amana RRH were Tsh. (USD$) 197,113 (75), 111,291 (42) and 207,336 (79) respectively. With an average unit cost of Tsh. 171,913 (USD 66). The facilities had varying proportions of tuberculosis cases identified through household contact investigation, with Amana RRH having the highest identification rate at 20%. Personnel and medical supplies costs were notably the cost driver at 74.5% and 18.5%, of the total costs with Mnazi Mmoja in the lead at average costs of Tsh 35,496,507 per month. Amana RRH Hospital had the highest capital cost (used in Household contact investigation) at Tsh 11,018,300 per annum **Conclusion and Recommendation.** This study emphasizes the importance of analyzing costs in healthcare facilities to understand the financial implications of using Household Contact Investigation for tuberculosis detection. It recommends increasing the deployment of community health workers to alleviate the workload on healthcare professionals, conducting further studies to assess long-term financial sustainability, and promoting collaborative research among stakeholders to evaluate the economic impact and effectiveness of tuberculosis control strategies in Tanzania. These recommendations aim to enhance the cost-effectiveness and reach of TB control programs.

374. Suleiman, A. (2024). Short inter-pregnancy interval; its associated factors and related pregnancy outcomes among admitted patients at Mnazi Mmoja Hospital – Zanzibar. Muhimbili University of Health and Allied Sciences.

ABSTRACT

Background: Short inter-pregnancy interval is associated with adverse outcomes that contribute towards maternal and neonatal morbidity and mortality. As we strive to advocate for the adoption of the WHO inter-pregnancy interval in Zanzibar, we need to understand the detrimental effects in our local settings if not maintained within the recommended range. Aim: To determine the prevalence of short inter-pregnancy interval, its associated factors, and related pregnancy outcomes among women admitted at Mnazi Mmoja Hospital. **Methodology:** A total of 424 women were enrolled in an analytical cross-sectional study between October and December 2023. Structured questionnaires were used for data collection. SPSS Version 23 was used for data analysis. Logistic regression analysis was used to determine the measure of effect of the association between variables, estimated at 95% confidence interval and 5% level of significance**.** **Results:** The prevalence of short IPI was 35.6% with a median age of 30 years, IQR [26-34]. Regarding use of family planning methods, non-use was significantly associated with increased odds of IPI (aOR=2.06, 95% CI=1.26-3.38). Likewise, compared with the older age group, the odds of short IPI were significantly increased with the younger women aged 25-29 (aOR=1.91, 95% CI=1.07-3.41) and 30-34 (aOR=1.99, 95% CI=1.12-3.54). In comparison with normal IPI, short IPI was associated with increased risk for stillbirth (aOR=2.38, 95% CI = 1.29-4.39), low birth weight (aOR=4.19, 95% CI = 2.62-6.71), premature babies (aOR=5.04, 95% CI = 2.84-8.91), NICU admissions (aOR=2.27, 95% CI = 1.33-3.86), maternal anemia (aOR=1.66, 95% CI = 1.09-2.54) and preterm labor (aOR=5.21, 95% CI = 3.07-8.83). **Conclusion:** More than a third of women at Mnazi Mmoja Hospital in Zanzibar practiced short IPI. As short IPI is a modifiable risk factor, adverse pregnancy outcomes can be prevented by addressing factors hindering adherence to the recommended IPI, particularly FP use.

375. Sumawe, J.A. (2024). Doppler Sonographic evaluation of peripheral arterial disease and its associated factors among diabetes mellitus patients at Muhimbili National Hospital. Muhimbili university of health and Allied Sciences.

ABSTRACT

Background: Peripheral arterial disease is more likely to develop among patients with diabetes mellitus (DM). it is a global problem with rising overall prevalence and associated risk factors. Peripheral arterial disease can lead to critical limb ischaemia and eventually amputation which can significantly affect the quality of life. This study investigated the proportion of peripheral arterial disease among diabetes mellitus patients and associated risk factors at Muhimbili National Hospital. **Methods**: Analytical cross-sectional design was used to collect data from 80 participants with DM and suspected peripheral arterial disease who were conveniently enrolled in the study between April 2023 and March 2024. Data on risk factors associated with peripheral arterial disease and sonographic findings was collected. The associations between independent and dependent categorical variables was examined using binary regression analysis and conducted multivariable regression analysis to determine both crude and adjusted odds ratios for each independent variable. **Results:** The enrolled study subjects had a mean age of 61.2 ±11.2 years and 55% were males. 18% of DM patients had peripheral arterial disease and 63.7 % had coexistent hypertension. Right and left limbs were equally involved with dorsalis pedis artery being the most commonly involved arterial segment accounting for 32.5%. We found a statistically significant association between peripheral arterial disease and the duration of the DM (p=0.04). **Conclusion:** The results of this study highlights relatively significant burden of peripheral arterial disease among the DM patients in our setting. Clinicians should increase utilization of duplex ultrasound for targeted screening of peripheral arterial disease to reduce risk of serious complications in these patients.

376. Swai, H.J. (2024). Predictors of 1-month and 3-month readmissions among patients with decompensated liver cirrhosis admitted at Muhimbili National Hospital. Muhimbili University of Health and Allied Sciences.

ABSTRACT

Background: Cirrhosis is the end stage of chronic liver disease and is associated with substantial inpatient morbidity and mortality. In Tanzania, Cirrhosis is the 13th most

common cause of death. It contributes significantly to morbidity due to complications and frequent readmissions shortly after discharge. This study aims to determine the burden of 1-month and 3-month readmission rates and associated factors in our setting. **Objective:** To determine the predictors of 1-month and 3-month readmissions among patients with Decompensated liver cirrhosis admitted in the Gastro-hepatology unit at Muhimbili National Hospital. Methodology: This prospective cohort study was carried out at Muhimbili National Hospital, involving a minimum of 110 consenting patients with decompensated liver cirrhosis who were admitted to the gastro-hepatology unit between August and November 2023 and followed up for 3 months post-discharge. Data regarding demographics, laboratory, and disease risk factors were compiled using a structured questionnaire. Continuous variables were summarized as medians (interquartile range), and categorical variables were displayed as percentages. Comparison was done using the Kruskal Wallis test for continuous variables and the Chi-squared test and Fisher exact test for categorical variables. The Robust Poisson regression model was used to analyze for factors associated with readmission within 1 and 3 months. A P value of 0.05 was used to denote statistical significance**. Results:** Of the 110 enrolled patients, 71.8%. The overall median age was 44.5, with IQR [36-59] years. The predominant etiology of cirrhosis was alcohol, found in 38.2% of patients, and the most common decompensating event responsible for index hospitalization was ascites (68.2%) followed by upper GI bleed (66.4%). About 66.4% of the patients presented with 2 complications at index hospitalization with an average median MELD-Na score of 23, IQR [17 30]. The 1-month and 3-month readmission rates in our study were 20.9% and 30.9%, respectively. vi Factors independently associated with 1-month readmission were MELD-Na (p=0.029) and for 3 months MELD-Na score (p=0.006) and thrombocytopenia (p=0.023). **Conclusion and Recommendation:** Our study found a comparable burden of readmission at 1 1-month and 3 months. The identification of the MELD-Na score and thrombocytopenia as factors associated with readmission provides valuable insight into risk factors for poor outcomes in cirrhotic patients. These findings suggest the utilization of the MELD-Na score in our clinical practice in identifying those with the likelihood of being readmitted to improve their outcomes.

377. Swai, N.W. (2024). Incidence of exposure keratopathy and associated factors among adult patients admitted in intensive care units at Muhimbili national Hospital. Muhimbili University of Health and Allied Sciences.

ABSTRACT

Background: Exposure keratopathy occurs in up to 60% of patients admitted in intensive care units. Being unconscious is associated with decreased ocular surface protective mechanisms. If not diagnosed early, exposure keratopathy can progress to microbial keratitis, corneal perforation and even loss of an eye. Exposure keratopathy can be prevented by following eye care protocols. Despite this, the magnitude of exposure keratopathy and associated factors among patients admitted in intensive care units at Muhimbili National Hospital have not been previously studied. **Aim:** To determine the incidence of exposure keratopathy and assess the associated factors among adult patients admitted in intensive care units at Muhimbili National Hospital. Material and **Methods:** A prospective cohort study was conducted at Muhimbili National Hospital from June to November 2023. A consecutive sampling technique was used to recruit participants from three adult intensive care units; data was collected using a clinical survey form, which involved a review of patients' files and daily ocular examination until the participants showed signs of exposure keratopathy or were discharged from ICU. Data analysis was done using STATA version 15.0. Statistical significance was defined as a p-value of less than 0.05. Logistic regression analysis was done to determine the association between the variables in which the odds ratios (ORs) were obtained. Kaplan Meier analyses were done to assess the change in the probability of not developing exposure keratopathy over time. **Results:** About 180 participants were recruited and analyzed, 54.4% were females. The median age was 46 (IQR 31.5-62.5) years. The majority stayed in the ICU for less than 8 days (71.1%) with a median stay of 5 (IQR 3-8) days. The most common type of ventilation was an invasive type (52.2%), the majority (51.7%) had a GCS of less than 9. Lagophthalmos and conjunctival chemosis occurred in 26.1% and 23.3% of study participants respectively. Exposure keratopathy occurred in 30.6% of study participants with an incident rate of 47.9 cases per 1000 person-days and a median duration of

occurrence of 6 (IQR 4-8) days. Odds of exposure keratopathy were higher in participants who were on mechanical ventilation, with low Glasgow coma score, with chemosis and lagophthalmos. **Conclusion:** The incidence of exposure keratopathy among patients admitted in intensive care units at Muhimbili National Hospital was high. The presence of lagophthalmos, conjunctival chemosis, low Glasgow coma score and invasive ventilation were associated with increased chances of developing exposure keratopathy. **Recommendation:** Formulation of intensive care units' eye care protocol at Muhimbili National Hospital is necessary with an emphasis on prophylactic treatment against exposure keratopathy, further studies to be done on eye care in the setting of intensive care units.

378. Swai, W.D. (2024). Adherence to national guidelines on children's reintegration in dar es salaam. Muhimbili University of Health and Allied Science. **ABSTRACT.Background:** Tanzania introduced the National Guidelines on Children's Reintegration with Families in 2019 to support children separated from their families who end up in orphanages or on the streets. The government, at both national and local levels, is responsible for ensuring the safety and effectiveness of reintegration through laws, policies, service provision, budgeting, and staffing. NGOs play a crucial role in informing children and families about services and, in some cases, providing key services like education, social supports, and counselling. **Objective:** This study aims to evaluate adherence to national guidelines on children's reintegration among social workers and welfare officers working with street-connected children in Dar es Salaam. **Methods:** A descriptive cross-sectional study design with a quantitative approach was used to conduct process evaluation. Data was collected via self-administered questionnaires, and analyzed using descriptive statistics, bivariate, and multivariate analysis. STATA version 17 was used for analysis. **Results:** Of the 171 participants, 147 responded (66% female; 45.6% aged 30-39). Most were government officials (58.5%) with bachelor's degrees in sociology. 79.2% had received reintegration training, and 59.3% had specific training in family therapeutic work. Resource availability (54.8% agreed they had adequate resources) and stakeholder collaboration were key factors influencing adherence.

However, gaps were identified in resource allocation and the need for continuous training. **Conclusion:** There is significant adherence to the reintegration guidelines in Dar es Salaam, although challenges such as insufficient resources and limited training persist. **Practical Implications:** For policymakers, this study underscores the need for better resource distribution and consistent training to enhance guideline adherence. Practitioners should prioritize collaboration with stakeholders and ensure that reintegration processes are thoroughly monitored to improve outcomes for reintegrated children.

379. Swaithe, F.C. (2024). Performance of clinical decision rules and physician clinical gestalt in predicting intracranial injury for adult patient presenting with mild head injury at emergency medicine department of a tertiary hospital in Tanzania. Muhimbili University of Health and Allied Sciences.

ABSTRACT

Background: The study investigates the challenges surrounding the diagnosis of mild traumatic head injuries (MTBI), which are defined by a Glasgow Coma Scale (GCS) score of 13-15. Despite cranial computed tomography (CT) scans being vital for identifying intracranial hematomas in MTBI patients, their inconsistent use and high costs introduce clinical challenges. Although MTBI complications are generally rare, the need for evidence-based clinical decision aids is evident due to the financial implications of CT scans. This study aims to compare the efficacy of clinical decision rules against physician clinical gestalt in predicting intracranial lesions on CT scans within resource-limited environments. **Methodology:** The study was a prospective cohort study of conducted at the Emergency Department of Muhimbili National Hospital – Upanga, Mloganzila and Muhimbili Orthopedic Institute Between January 2024 to June 2024. Physician were asked for their clinical gestalt probability of how likely the patient was to have intracranial lesion on CT brain scan. Three clinical decision rules (New Orleans Head CT Rule, Canadian CT Head Rule, and NEXUS II) were determined by the investigator using initial GCS score, chief complaints, sign and symptoms, neurological

findings and history of presenting illness and final brain CT scan report were recorded for all the patients. Performance for physician clinical gestalt, CCHR, NOC and NEXUS II were determined using a ROC curve. Sensitivity, specificity, positive and negative predictive value and the area under the curve (AUC) were calculated to evaluate each test's ability to predict intracranial lesion. Additionally, the comparison of physician clinical gestalt to the individual clinical decision rules was determine by the area under the curve (AUC). **Results:** The majority of participants were male 107 (82.3%) with a median age of 29 years. Traffic accidents, particularly motorcycle accidents, were the most common cause of injury 108 (83.1%). Physician clinical gestalt had a sensitivity of 83.3% and specificity of 63.8%, with an AUC of 0.796. The Canadian CT Head Rule demonstrated the highest sensitivity (94.4%) among the decision rules but had a low specificity (27.6%), with an AUC of 0.610. Comparatively, NEXUS II and New Orleans Criteria had AUCs of 0.591 and 0.522, respectively. Physician clinical gestalt outperformed all clinical decision rules in detecting intracranial injury**. Conclusion:** Physician clinical gestalt outperformed clinical decision rules (CCHR, NEXUS II and NOC) in predicting intracranial lesion in patients with mild head injuries, suggesting that while the clinical decision rule are valuable tools, the nuanced assessment capabilities of physicians are crucial for diagnosis of intracranial injuries. These study findings highlight the indispensable role of clinician experience and judgment in the diagnostic process at EMD especially resource limited setting.

380. Tarimo, Q.G. (2024). Prevalence of depression and associated risk factors in newly diagnosed breast cancer patients at ocean road cancer institute. Muhimbili University of Health and Allied Sciences.

ABSTRACT

Background: Depression is a common condition that affects patients with cancer. However, compared to other cancers, breast cancer is associated with higher rates of depression. The prevalence of depression has detrimental effects on patients' quality of life, adherence to treatment, and survival. Known risk factors for depression include: a

lower level of education, more invasive surgery, a higher stage of the disease, and decreases in social support. Very few studies have evaluated the prevalence, severity, and risk factors for depression among breast cancer patients in Africa, and even fewer studies in Tanzania. Therefore, this study aimed at helping clinicians' assessment and treatment of depression in patients with breast cancer. Objective: The study aimed to determine the prevalence of depression and associated factors among newly diagnosed breast cancer patients receiving treatment at the Ocean Road Cancer Institute in Dar es Salaam. **Methodology**: This was a hospital-based cross-sectional study involving women diagnosed with breast cancer in the year 2023. The study was conducted from December 2023 to March 2024 and collected information on independent variables including socio-demographic, clinical, and treatment factors. The dependent variables were the prevalence and severity of depression which were assessed using the Patient Health Questionnaire (PHQ-9). The Statistical Package for the Social Sciences (SPSS, version 26) was used for data entry and analysis. Both univariate and multivariate analyses were used to determine the relationship between independent and dependent variables. **Results**: A total of 197 breast cancer patients were recruited. The mean age of participants was 50.4 years and all participants were females. Depression was found in (108 cases) that is 54.8% of the study participants. Among 108 patients with depression, 40% had mild depression, 11% had moderate depression, and 4% had moderately severe depression. Depression was significantly associated with younger age <45years (OR= 2.65 P=0.021 95% CI (1.16-6.06)), advanced stage of the disease (OR=3.44 P=0.001 95% CI (1.17-10.10), not having received surgery (OR=6.11 P=0.001 95% CI (2.76-13.56)), not having received radiation (OR=2.35 P=0.044 CI (1.50-6.77)), being HIV positive (OR=10.17 P=0.001 95% CI (2.49-41.63)) and presence of pain (OR=2.81 P=0.004 95% CI (1.40-5.65)).Conclusion: This study has demonstrated that the prevalence of depression is high in newly diagnosed breast cancer patients. Factors that were significantly associated with depression were the younger age of patients, advanced stage of disease, not receiving surgery, not receiving radiotherapy, being HIV positive, and the presence of pain. It is, therefore, essential to emphasize the multidisciplinary management of cancer patients and to build strong collaboration with psychiatrists and

the palliative care team. This will allow ease of consultation, referral, and timely and efficient management of these patients.

Keywords: Breast cancer, Depression, Prevalence, Risk factors, Patient Health Questionnaire (PHQ-9), Tanzania**.**

381. Temba, A.J. (2024). Exploring factors influencing Tetanus-diphtheria vaccine uptake among Pregnant Women at Kinondoni Municipal in Dar es salaam. Muhimbili university of health and Allied Sciences.

ABSTRACT

Background: Maternal and neonatal tetanus are major global health issues, with Africa being the most affected. The World Health Organization (WHO) and Ministry of Health recommend women to receive at least five tetanus diphtheria (Td) vaccines during their reproductive years to develop lifelong protective antibodies**.** In Tanzania, 57% of women of reproductive age have received two doses of Td vaccines highlighting the need for comprehensive understanding. **Purpose: To explore** factors influencing Td vaccination uptake among pregnant women at Kinondoni Municipal Dar-es-salaam. **Methodology:** A descriptive qualitative study was conducted among 13 women receiving antenatal care (ANC) at Magomeni Health Center (MHC). The study utilized purposive sampling and collected data through in-depth interviews (IDI), recordings, and field notes using an in-depth interview guide. Audios were verbatim transcribed and triangulated with field notes. Thematic content analysis was done, wherein line coding was conducted and aggregated into categories and, eventually themes. **Findings:** The study identified key facilitators for Td vaccine uptake, including motivation and education from healthcare providers, availability of vaccines and information at health facilities, and encouragement from family and community stories. Barriers to completing the vaccine doses included personal challenges like forgetting the vaccine card, childcare responsibilities, late ANC visits due to fear of pregnancy disclosure, and lack of information. Health facility-related barriers were inadequate vaccine supply, lack of appointment systems, and distance to the health facility, with some participants expressing frustration over multiple unsuccessful

visits. **Conclusion:** The Td vaccine is crucial for pregnant women to prevent neonatal tetanus. Full vaccination ensures immunity, with at least two doses needed for optimal protection. Overcoming barriers through education, improved healthcare strategies, and community support is essential to increase uptake and ensure better protection against Tetanus-diphtheria. **Key words:** Td vaccination uptake, pregnant women, Kinondoni Municipal, ANC, barriers and facilitators maternal health, Neonatal tetanus prevention, and Qualitative study.

382. Thomas, M.T. (2024). Assessment of nutritional status and its associated factors among adult HIV patients attending care and treatment centers (CTC) in the Songwe region, Tanzania. Muhimbili University of Health and Allied Sciences.

ABSTRACT

Background: Malnutrition is a major problem among people living with HIV/AIDS despite better nutrition intake these last few years. Poor absorption of nutrients and frequent opportunistic infections are to be considered in this regard. Nutritional intervention among this population is no longer a recommendation but a need. **Objective:** This study aimed to assess the nutritional status and determinants of malnutrition among PLWHIV attending Care and Treatment Centers in the Songwe Region. **Methods:** This was an analytic, cross-sectional study conducted between May and June 2022 in four health facilities. Stratified sampling was used to select participants. Structured questionnaires and anthropometric measurements were used to collect data on nutritional status, socio-demographic information, clinical characteristics, and dietary diversity. Logistic regression analysis was applied to identify determinants of malnutrition using SPSS software**. Results:** The study involved 390 participants, predominantly female (67.4%), with a mean age of 46.38 years. Most participants were married (54.4%), employed (55.9%), and resided in rural areas (68.6%). Clinically, 20.3% experienced HIV-related symptoms, with most in Stage II (44.9%) and a majority having a CD4 count >500 (62.3%). ART adherence was high at 90.8%. Nutritional assessments indicated that 76.7% were malnourished, with significant malnutrition rates associated with advanced

clinical stages of HIV, lack of dietary counseling and support, comorbidities, and low dietary diversity. Logistic regression analysis revealed that advanced HIV stages increased malnutrition odds: Stage II (AOR 6.73), Stage III (AOR 6.27), and Stage IV (AOR 1.79), while lack of dietary counseling (AOR 5.18), nutritional support (AOR 3.84), and comorbidities (AOR 5.89) were also significant risk factors **Conclusion:** The study concludes that malnutrition is highly prevalent among individuals living with HIV, particularly those in advanced stages and without dietary counseling. This highlights the urgent need for nutritional interventions in HIV care to improve health outcomes and treatment adherence. Integrating regular dietary assessments into standard management practices is essential for supporting the well-being of this vulnerable population.

383. Torokaa, P. (2024). Aetiologic agent of acute upper respiratory infection in human influenza and sars-cov-2 negative cases in Tanzania. Muhimbili University of Health and Allied Sciences.

ABSTRACT

Background: Viral aetiologies are among the most frequent causes of respiratory disease in both children and adults worldwide. The annual epidemics causes estimated 290,000 to 650,000 deaths and 3 to 5 million cases of serious respiratory illness globally. There are several respiratory pathogens that cause acute respiratory infections (ARIs), however adequate data on aetiologic agents are lacking. **Objective:** To determine aetiological agent of ARI among patient tested negative for human influenza and SARS-CoV-2 in Tanzania. **Method:** This was a retrospective cross-sectional study carried out using archived nasopharyngeal swab samples of patients confirmed of SARS-CoV-2 and Human Influenza virus tested negative. The study was conducted at National Public Health Laboratory (NPHL), samples were collected from 27 sentinel site from October 2023 to March 2024. Total nucleic acid (RNA and DNA) were extracted using Qiagen-QIA/80204 All-Prep DNA/RNA Mini Kit. The profiling of genomes of pathogen was quantified using Illumina Miseq reagents kit and DNA libraries were sequenced using the Illumina sequencer. **Results:** A total of 172 patient samples were include in this study of

which 89% (153/172) were positive with at least one pathogen detected. A high proportion 84.9% (146/172) of samples had bacteria pathogen, 18.0% (31/172) viral pathogen and 18.6% (32/172) had fungi. A total of 406 of respiratory pathogen were detected. *S. pneumoniae* was the predominant bacterial pathogen 78.2% (115/147) detected while Human rhinovirus 38.7% (12/31) was the prevalent virus. Individuals aged between 18 and 64 had 3.1 times the odds of having ARI caused by single pathogen (aOR 3.1, 95%CI: 1.1–8.8) compared to patients aged ≥65 years while the odds of having ARI due multiple pathogens for the same age group (aOR 6.1, 95%CI: 2.3–16.3) were 6.1 times higher than those aged ≥ 65 years. **Conclusion**: The study found a high proportion of other pathogens cau ARI. Particularly *S. pneumoniae* were the predominant cause with Human rhinovirus emerged as the prevalent viral cause of ARI. Age played a significant role in susceptibility to respiratory infections.

384. Towo, J. (2024). Potential medication errors and their predictors among hospitalized paediatric patients at Muhimbili National Hospital, Tanzania. Muhimbili University of Health and Allied Sciences.

ABSTRACT

Background: Medication errors caused by human error or system flaws pose a significant risk to the safety of paediatric patients. These errors can lead to adverse drug reactions, decreased treatment effectiveness, and even death. However, there is a scarcity of data related to magnitude of medication errors in African countries including Tanzania. **Aim:** This study aimed to determine the prevalence of potential medication errors and their predictors among paediatric patients admitted at Muhimbili National Hospital, Tanzania. **Methodology**: This was a hospital-based cross-sectional study which was conducted from April to June 2024. A total of 365 participants were recruited consecutively during the study period. A structured questionnaire was used to collect data from participants below 18 years who provided an assent and their parents/guardian consented. Using SPSS version 27, data was entered and cleaned. Frequencies were run to obtain distributions. A univariable analysis was conducted and factors with a p-value

<0.2 were considered fit for a multivariable analysis. In the multivariable analysis, factors with p-value <0.05 were statistically significant. **Results:** This study revealed that 72.1% (263) of participants experienced medication errors, with duration errors 65.2% (238) and route errors 42.2% (154) being predominant. Commonly prescribed medications included vitamins/minerals (35.6%), bronchodilators (23.6%), and antibiotics (21.1%). Significant predictors of medication errors included shorter hospital stays (adjusted odds ratio [AOR]: 4.886, 95% CI: 2.702-8.835), absence of previous medication errors (AOR: 2.558, 95% CI: 1.393-4.697), and lack of medication error training for healthcare workers especially dispensers (AOR: 11.4, 95% CI: 4.945-26.348). Infrastructure factors, such as the absence of a dose reconciliation protocol, were also associated with increased odds of potential medication error (AOR: 2.097, 95% CI: 0.793-4.912). **Conclusion:** This study found a high prevalence of potential medication error among paediatric patients. Significant predictors of medication errors identified include hospital stay of less than 5 days, lack of previous medication history, absence of medication error training for healthcare workers, and the absence of a dose reconciliation protocol. This study calls for further research in Tanzania to enhance medication error training among healthcare workers, developing standardized reconciliation protocols, as well as improving hospital infrastructure with regard to medication prescription, dispensing and administration.

385. Tupa, F. (2024). Implementation of the national cancer treatment guideline for cervical cancer care: A case study of ocean road cancer institute, Dar es salaam. Muhimbili University of Health and Allied Sciences.

ABSTRACTS

Background: The second most repeated female tumor worldwide is cervical cancer, and the first most frequent in Tanzania, depicting a major problem to women's health. Comprehensive management of invasive cervical cancer necessitates access to responsive institutional management, a multidisciplinary approach, appropriate equipment/ medical infrastructures, and a functional structural system. Despite the existence of cancer treatment guidelines, the management of cervical cancer has not been standardized. So,

the current study aimed to tough out the influence of health system factors in compliance with cervical cancer treatment guidelines. **Broad objective**: To explore the health system factors that influence compliance with the National Cancer Treatment Guideline for cervical cancer care at Ocean Road Cancer Institute. **Methodology:** A cross-sectional study design employing a qualitative approach in the form of process evaluation was done. It was conducted at Ocean Road Cancer Institute, and a total of 20 healthcare providers were purposively invited for an in-depth interview based on their experience and the richness of information on the topic under study. All interviews were audio recorded, and transcription and translation from Swahili to English was done. Thematic analysis was done after transcription and translation texts were reduced to codes and patterned to identify themes and sub-themes. The study was governed by a health system framework that shows the linkage between institution management, technical and structural factors, and the usage of the national cancer treatment guideline. **Results:** The compliance with the national cancer treatment guideline is high at ORCI, and health system factors that emphasize the compliance of the NCTG are the existence of a clear policy of using NCT guidelines at ORCI, a stirring working environment, and a clear support system, while other factors such as low health personnel to patient ratio, unstructured training in the guideline, infrastructure barriers, and operational deficiency hinder the implementation of the guideline. **Conclusion and recommendations:** The study findings reveal that national cancer treatment guideline is well implemented at ORCI. However, health system factors such as training, human resources, infrastructure, and operation systems have negatively influenced the implementation of the guideline. To the Ministry of Health to boost healthcare funding, human resource development, review and update the guideline. ORCI management provide regular training, improve machine maintenance, and streamline patient flow.

386. Turuka, R.M. (2024). Intimate partner violence screening in pregnant women attending antenatal care: facilitators and barriers among health care providers at Mbeya zonal referral hospital. Muhimbili University of Health and Allied Sciences.

ABSTRACT

Background: Intimate partner violence (IPV) is a global health concern. In pregnancy, IPV has dire consequences. Tanzania initiated IPV screening during pregnancy in 2018. However, the uptake and implementation of this initiative have been slow and inconsistent. Aim: The study aims to explore facilitators and barriers to IPV screening during pregnancy among the healthcare providers at Mbeya Zonal Referral Hospital **Methods:** This exploratory qualitative study used in-depth interviews with eleven purposefully selected healthcare providers at a zonal referral hospital. The interviews were audio-recorded and transcribed verbatim. Data were analyzed using thematic analysis with the aid of QDA Miner. Results: Healthcare providers reported lacking screening tools, including guidelines and clear pathways for helping IPV victims, and low institutional and leadership support undermined their screening of women. Healthcare providers' knowledge, training, experience, and trusting provider-women relationships facilitate dialogue and screening of women. Meanwhile, social-cultural norms, fear of negative consequences, and perceiving IPV as a family secret deter women from reporting or avoiding IPV screening. Furthermore, healthcare services are structured in a way that prioritizes organic illness and pregnancy-related care and downplays other significant but nonvisible conditions like IPV. **Conclusion:** Our findings highlight the need to organize and improve coordination between the health sector, the local health facilities, and the community to empower healthcare providers to conduct thorough IPV screening. Community awareness campaigns to encourage women to shift attitudes toward IPV disclosure voluntarily are also necessary.

387. Twalib, S. (2024). The role of risk perception on joining and leaving health insurance schemes among adults in Temeke Dar es salaam. Muhimbili university of Health and Allied Sciences.

ABSTRACT

Background: Lower-middle-income countries (LMICs) have a common goal to achieve universal health coverage (UHC) through voluntary health insurance schemes, this is

crucial for improving healthcare accessibility and reducing out-of-pocket costs. Despite the introduction of the National health insurance scheme which includes people from diverse economic status, the enrollment of people in Tanzania is still very low. Studies looking at health risk behavior have rarely documented the role of risk perception on joining and leaving health Insurance schemes. **Objective:** To examine the role of risk perception on joining and leaving insurance schemes among adults in Temeke Dar er Salaam. **Methods**: This study used a cross-sectional analytical design with a sampling unit of individual adults aged 18 and above residing in Temeke Municipal. Four study wards were randomly selected from 23 wards in the Temeke municipal, to reach 422 sample size. The analysis included both descriptive to determine the proportion of the population that has enrolled in the health insurance schemes, to examine the individual characteristics that influence joining in the scheme and to examine the level of risk perception among both members and non-members of the Health Insurance Schemes. Inferential analysis through logistic regression was used to determine health risk profiles associated with health insurance membership and also risk perception was measured using the Risk Perception Index (RPI) under the help of Statistical Package for the Social Sciences (SPSS) version 27. **Results:** About 62 (14.7%) were enrolled in a health insurance scheme with only 42 respondents enrolled in NHIF scheme. Few respondents who were previously enrolled in health insurance schemes and subsequently left were about 86 (20.4%). level of risk perception was assessed by different statements representing risk averse, risks takers and risk perception. The level of risk perception was scored by 2.50 weighted mean, showing that the level of risk perception was high among members and non-members of health insurance scheme. The logistic regression showed that Age (p=0.000, COR=1.05), income (p=0.049, COR=1.00), health conditions (p=0.016, COR=2.11), regular exercise (p=0.017, COR=1.65), and risk perception (p=0.049, COR=1.01) positively affect the likelihood of having health insurance. **Conclusion and recommendation:** Enrolment in health insurance schemes is very low in Temeke municipal council, with individuals having high level of risk perceptions and health risk profiles such as age, income, and risk perception significantly influence health insurance uptake among residents to increase health insurance enrollment and reduce

negative perceptions in health insurance in Temeke Municipal, raising awareness and education through public campaigns, is muchly needed.

388. Uriyo, G.Z. (2024). Knowledge And Practices on Red Reflex Test Among Reproductive and Child Health Workers in Selected Health Facilities in Dar Es Salaam. Muhimbili University of Health and Allied Sciences.

ABSTRACT

Background: The red reflex test (RRT) is vital for detecting ocular diseases in newborns, recommended at birth and during each Reproductive and Child Health (RCH) visits. Its underutilization may lead to delayed disease diagnosis and consequently increasing visual impairment, blindness and death. In our setting most children present to tertiary health facilities with advanced eye diseases that could be prevented by routine red reflex test. Understanding the knowledge, practices, and factors associated with knowledge has provided baseline data that will enable setting up evidence-based strategies to enhance red reflex testing. **Aim:** To assess knowledge, practices on red reflex testing and associated factors among RCH workers in selected health facilities in Dar es Salaam. **Methodology:** A cross-sectional analytical study in 8 health facilities in Dar es Salaam from June to December 2023 was conducted. RCH workers in the selected health facilities were recruited by consecutive sampling method. An interviewer administered questionnaire and checklist was used for data collection. Statistical Package for Social Sciences version 26 was used for data analysis. Chi-square and fisher's exact test were used to establish relationship between socio-demographic characteristics, baseline factors and level of knowledge. Univariate and multivariate logistic regression was used to analyze factors associated with knowledge of RCH workers on red reflex testing, with $p < 0.05$ and a 95% confidence interval indicating statistical significance. **Results:** The study included 303 participants, predominantly females (73.9%), with a median participant age of 35 years (IQR: 28, 43). Almost half (48.5%) were assistant nurse officers and nurse midwives. The level of knowledge among study participants was 57.18 + 15.35 % and 50% of participants had adequate knowledge on the red reflex test. None

(0%) of participants had ever performed a red reflex test at work, and lack of screening instruments was the major reason for not performing the test. In multivariate analysis, duration of practice (aOR:0. 74 95% CI :0. 60-0.92, p =0.008), formal training history (aOR: 1.48, 95% CI: 1.32-1.65, p = 0.001), and training area (aOR:0. 83, 95% CI 0.75-0.93, p =0.001), were significantly associated with adequate knowledge. **Conclusion and recommendations:** Half of the study participants exhibited inadequate knowledge levels and all had poor red reflex test practices. The history of formal training on the red reflex test was associated with adequate knowledge. Emphasis on regular on the job training on the red reflex test and ensuring availability of the red reflex screening instruments in the health facilities should be done.

389. Wilfred, A.K. (2024). The effects of covid-19 on tuberculosis case detection and treatment outcomes: analysis of routine tuberculosis program data in Dar es Salaam region, Tanzania, Muhimbili university of health and Allied Sciences.

ABSTRACT

Introduction: Tuberculosis (TB) is a global health concern, causing significant morbidity and mortality worldwide. The COVID-19 pandemic has presented unprecedented challenges to the management of infectious diseases, including TB. The reprioritization of resources and the stigma associated with COVID-19 symptoms had the potential to disrupt TB diagnosis, treatment, and follow-up on care. This study aimed to assess the effects of COVID-19 on tuberculosis case detection and treatment outcomes in the Dar es Salaam Region of Tanzania. **Methods:** This was a retrospective cohort study design, comparing two cohorts; the pre-COVID-19 era, February-July 2019, and the during the COVID-19 era, March-August 2020. Data sources were medical records of Tuberculosis patients from health facilities in Dar es Salaam and from the questionnaire to health facility in-charge or TB clinicians from the visited facilities. The study compared TB case detection and treatment outcomes between the pre-COVID-19 and during COVID-19 periods. The target population was all the notified TB cases in the health facilities in Dar es Salaam. A minimum of 1476 cases for each period was required

to test the difference between the two periods. Data collection involved standardized data abstraction forms, capturing demographic information, clinical characteristics, treatment regimens, and outcomes, and a questionnaire that captured facility information related to COVID-19. Descriptive statistics, bivariate analyses, and multivariable logistic regression techniques were used in data analysis to determine the magnitude and factors for poor TB treatment outcomes. **Results:** The results reveal that the overall proportion of missed TB cases during the pandemic was 13.5%. Females lost more cases, 21.1% (n=154) during COVID-19 compared to male counterparts (9.1%, n=114). Notification of TB cases among children was low during COVID-19, nearly by half of the cases, n=190 notified before COVID-19. In TB treatment outcomes, the overall results show a slight increase in the proportion of unfavorable treatment outcomes during the COVID-19 era, 5.4% (n=93) compared to the pre-COVID-19 era, although the difference was not statistically significant (p=0.374). In the assessment of the factors, HIV status (positive), disease classification (Extra pulmonary TB Patients), and location (Kigamboni district) factors were found to prevail in both pre-and During the COVID-19 era as the factors for unfavorable TB treatment outcomes. **Conclusion:** The COVID-19 pandemic had a significant impact on tuberculosis (TB) case detection. The variations were observed across districts, gender and type of TB patient referral, as observed in other countries. Also, the COVID-19 pandemic adversely affected TB treatment outcomes with increased unfavorable treatment outcomes such as mortality and loss to follow-up (poor adherence). The increased mortality and poor treatment adherence during the pandemic underscore the need for robust TB care and support systems, particularly during global health crises.

390. William, F.M. (2024). Experience of male partners of cervical cancer survivors at Bugando Cancer Centre in Mwanza Tanzania: A phenomenological qualitative study. Muhimbili University of Health and Allied Sciences.

ABSTRACT

Background: Cervical cancer remains a major health concern, with over 600,000 cases globally, predominantly in low- and middle-income countries like those in Africa.

Tanzania has an exceptionally high incidence rate of 54 per 100,000 people. Despite advancements in early detection and treatment, survivors often experience a reduced quality of life, including sexual distress and intimacy issues affecting the patients and their partners. Communication difficulties and relationship strains are common. The limited information on male partners' experiences highlights the need for more research, especially in Mwanza, Tanzania. **Objective:** The study explored the experience of male partners of cervical cancer survivors at Bugando Cancer Centre in Mwanza, Tanzania. **Materials and methods:** This qualitative study employed a phenomenological approach to explore the experiences of male partners of cervical cancer survivors. Data were collected through in-depth, semi-structured interviews with 12 participants, selected via purposive sampling. The interviews were audio-recorded, transcribed verbatim, and analyzed using thematic analysis to identify common themes and patterns. Manual thematic analysis facilitated the coding process, ensuring systematic data management. Ethical considerations included informed consent, confidentiality, and the right to withdraw. The study aimed to provide insights into the emotional, social, and psychological impacts on male partners, contributing to improved support mechanisms in healthcare settings. **Results:** This study explored the experiences of male partners of cervical cancer survivors at Bugando Cancer Centre in Mwanza, Tanzania. Three main themes emerged: challenges of male partners, relationship dynamics, and cultural norms. Participants faced significant psychosocial challenges, including stress, guilt, and social isolation, alongside financial strains due to treatment costs and lost income. Logistical challenges included accessing specialized care and lack of information. Relationship dynamics were strained by communication issues and changes in sexual intimacy. Cultural norms imposed additional burdens, with societal expectations and reliance on traditional practices affecting caregiving and health-seeking behaviors. This study highlights the need for comprehensive support for male partners of cervical cancer survivors. **Conclusion:** The study found that male partners of cervical cancer survivors experience an unbearable stress and financial difficulties, made worse by problems accessing care and not having enough information. Their relationships often suffer, especially in terms of communication and sexual intimacy. Cultural expectations add

extra pressure, affecting how they care for their partners and seek medical help. This finding highlights the need to offer support programs for mental health, easy-to-understand information, counseling for relationships, and training for healthcare workers. This study makes a substantial contribution to the existing literature by addressing the notable gap in research on male partners of cervical cancer survivors, especially within low-resource settings such as Tanzania.

Keywords: Cervical cancer, Male partners, Psychosocial challenges, Relationship dynamics

391. Wilson, V.K. (2024). Factors associated with musculoskeletal disorders among household waste collectors in Kinondoni Municipality, Dar es salaam, Tanzania. Muhimbili university of health and Allied Sciences.

ABSTRACT

Background: Household waste collectors play a crucial role in maintaining waste management in our environment, but their activities involve a variety of health hazards. In developing countries like Tanzania, the collection of waste is done manually which requires heavy physical activities. Among different occupational health hazards, musculoskeletal disorders are common among the household waste collectors. The study hypothesizes that various factors, including gender, working hours, and awareness of proper lifting techniques, contribute to the prevalence of MSDs among waste collectors in Tanzania. **Objective:** To determine the factors associated with musculoskeletal disorders among household waste collectors in in Kinondoni Municipality at Dar es salaam, Tanzania. **Material and Methods:** A cross-sectional study was carried out where 138 household waste collectors were selected from the multi cluster random sampling. The study used a structured questionnaire and observation checklist. And prevalence of Musculoskeletal disorders was obtained from Calculating the percentage of the respondents with musculoskeletal disorders by determining the total number of the household waste collectors surveyed and calculating the percentage of the respondents who reported musculoskeletal disorder based on the identified criteria Data were

analyzed using the statistical package for the social sciences (SPSS) version26 to identify factors contributing to musculoskeletal disorders among household waste collectors. This applied chi square and bivariate logistics regression for data analysis **Results:** The study found a high prevalence of musculoskeletal disorders (71.0%) among participants, with significant associations observed between MSDs and factors such as gender (p=0.008), working hours (p=0.001), awareness of risks related to improper lifting (p=0.011), and knowledge of preventive exercises (p=0.001). Pain was reported in various regions, with notable percentages experiencing discomfort in the neck, shoulders, and lower back. **Conclusion:** The study highlights the high prevalence of musculoskeletal disorders among household waste collectors. Where there is the necessity for implementing preventive measures, including training on proper lifting techniques, regular health monitoring, and wellness initiatives. Recommendations for waste collectors include wellness initiatives, work breaks, and rotational schedules, promoting collaboration among stakeholders for a safer work environment.

392. Wimile, H.H. (2024). Willingness to join voluntary health insurance among households in Kinondoni municipal, Dar es salaam. Muhimbili University of Health and Allied Sciences.

ABSTRACT

Background: In many low- and middle-income countries (LMICs), health insurance schemes have been recognized as a crucial approach towards achieving universal health coverage (UHC). Understanding the Willingness to join for health insurance and its associated factors is essential for the successful implementation of such schemes. **Objective:** The main objective of this study was to assess the Willingness to join health insurance and its associated factors in the Kinondoni district. **Methodology:** A cross-sectional analytical study was conducted to assess the Willingness to join health insurance in Kinondoni district. The study involved 455 households, with structured questions focusing on willingness to join, ability to pay, and health-related factors. The objectives were analyzed using STATA 16.0, descriptive analysis was used for

willingness to join and ability to pay (through an expenditure-income approach). Logistic regression was used to determine health-related risk factors that are associated with the Willingness to join for voluntary health insurance. **Results:** The results in this study show that 78.2% of households are willing to join the available voluntary health insurance schemes with iCHF/TIKA 54.8% being the most preferred health insurance plan. Most of the households are unable to pay for voluntary health insurance schemes with 6.9% expenditure-income ratio. Multiple regression analysis indicated that pre-existing medical conditions (AOR 4.8; 95% CI: 1.91-11.95) and history of illness (AOR 0.23; 95% CI: 0.07-0.67) were significant factors that were associated with the Willingness to join for voluntary health insurance. **Conclusion and recommendations:** Households were willing to join voluntary health insurance schemes, and High-income households spend more on medical care and can afford health insurance compared to low-income earners. The Willingness to join for health insurance is influenced by pre-existing medical conditions, proximity to health facilities, household size, chronic illness, household composition, and education level. Shifting to tax-funded health insurance can increase coverage and achieve universal health coverage.

393. Wimile, H.H. (2024). Willingness to join voluntary health insurance among households in Kinondoni municipal, Dar es salaam. Muhimbili University of Health and Allied Sciences.

ABSTRACT

Background: In many low- and middle-income countries (LMICs), health insurance schemes have been recognized as a crucial approach towards achieving universal health coverage (UHC). Understanding the Willingness to join for health insurance and its associated factors is essential for the successful implementation of such schemes. **Objective:** The main objective of this study was to assess the Willingness to join health insurance and its associated factors in the Kinondoni district. **Methodology:** A cross-sectional analytical study was conducted to assess the Willingness to join health insurance in Kinondoni district. The study involved 455 households, with structured

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394. Yamungu, Z. (2024). Outcome evaluation of compliance to early infant diagnosis of HIV testing protocol among HIV exposed children in Regional Referral Hospitals, Dar es Salaam, Tanzania. Muhimbili university of health and Allied Sciences.

ABSTRACT

Background: After birth, all HIV-exposed children aged 0-18 months are eligible to receive a series of HIV tests as per the early infant diagnosis (EID) protocol recommendations to rule out their HIV infection status as early as possible. However, early infant diagnosis (EID) of HIV testing remains a challenge owing to guidelines compliance, though evidence is inconclusive. This study therefore, evaluated the

compliance to EID of HIV testing protocol among HIV exposed children aged 0-18 months, and its associated factors. The results will inform policies and practices on the implementation status of EID of HIV testing protocol in Tanzania and countries with similar contexts. **Methods**: A cross-section method using quantitative approach was used to gather data from 288 pairs of HIV infected mother and HIV exposed children (observation unit). They were selected using convenient sampling techniques from the regional referral hospitals. Data was collected using standardized questionnaire containing health provider compliance questions, compliance to EID of HIV testing implementation questions, social demographic data of the mother, maternal factors, and health facility factors to the respective participants. The outcome variable of interest was compliance to EID of HIV implementation protocol. Data analysis was conducted using descriptive statistics, bivariate and multivariate logistic regression analysis to address the research objectives. **Results:** Only 72.6% of mothers living with HIV complied to the EID of HIV testing protocol, although a significant majority (83.3%) of health workers were well-acquainted with the EID of HIV testing protocol and utilize it consistently during daily routine implementation. Mothers on antiretroviral therapy for at least two years were more likely to adhere to EID HIV testing compared to their peers with less duration (AOR=2.28, 95% CI: 1.05-4.95). Moreover, those who resided at least 5km from the health facility were twice more likely to adhere to this recommendation (AOR=1.97, 95% CI: 1.04-3.73). Perceived benefits of EID for HIV (AOR =2.57 (95% CI: 1.26-5.24) and less average time spent to receive EID services (AOR= 3.20, 95% CI: 1.48-6.88) were also associated with compliance to EID services. **Conclusion and recommendations:** Although a significant proportion of health workers are well-acquainted with EID protocols for HIV testing in Dar es salaam, Tanzania; only seven in ten of mothers living with HIV complied to the EID of HIV testing protocol for their exposed children. Improving this crucial HIV elimination intervention can be achieved with tailored interventions targeting immediately diagnosed mothers or those on ART for a shorter period, providing services closer to where they live, improving counseling on EID, and improve efficiency in service provision to cut down waiting time.

395. Yesaya, M. (2024). Malocclusion and orthodontic treatment need among 12–15-year-old Tanzanian schoolchildren using the dental aesthetic index. Muhimbili University of Health and Allied Sciences.

ABSTRACT

Background: The Prevalence of malocclusion in children and adolescents varies significantly in different geographical regions, ranging from 39% to 93%, and its severity ranges from what is considered a normal deviation to severe malocclusion or handicapping malocclusion. Normally, deciding if one should undergo orthodontic treatment or not greatly depends on the severity of the malocclusion. Recently, dental appearance has been something of a great concern among members of the community. Perceived orthodontic treatment need differs correspondingly with social, cultural, and geographical locations. It was, therefore, important to highlight the extent of malocclusion, the orthodontic treatment need, and its related factors in a Tanzanian community. **Objective:** To assess the prevalence of malocclusion and orthodontic treatment need among 12–15-year-old Tanzanian schoolchildren using the Dental Aesthetic Index (DAI). Material and Methods: This was a school-based cross-sectional analytical study that involved 12-to 15-year-old schoolchildren from Kinondoni District. Participants were obtained through a multistage random sampling method. Data collection was done by using a questionnaire, and a clinical examination was performed utilizing the Dental Aesthetic Index (DAI). Data was processed by using SPSS software, version 29.0. A comparison of proportions was done through a Chi-square test, whereas the Modified Poisson Regression under Stata MP-17.0 was used to confirm the bivariate associations. The level of statistical significance was set at $p<0.05$, with a 95% confidence interval. **Results:** A total of 483 12-15-year-old schoolchildren in Kinondoni Municipal-Dar es Salaam were enrolled, the majority (43.3%) being 12-year-olds. The distribution of the participants by sex and residence, showed a slight predominance of girls and those from Northern wards of the Kinondoni Municipal (56.9% and 54.7%, respectively). The overall prevalence of malocclusion in schoolchildren was 55.9%. The most common malocclusion trait was crowding, and the majority had normal molar

relationships (39% and 85%), respectively. Also, several participants (52%) showed a subjective orthodontic treatment need. Schoolchildren who were perceived to have malocclusion and those who had normative malocclusion were more likely to demonstrate orthodontic treatment need than their counterparts (aOR 1.736, CI 1.509-1.998; p<0.001 and (aOR 1.252, CI 1.051-1.492; p=0.012, respectively). Furthermore, class-seven pupils were less likely to express the need for orthodontic treatment as compared to those in class six (aOR 0.712, CI 0.567-0.892; p =0.003). **Conclusion:** Majority of the schoolchildren (55.9%) had malocclusion with the severity ranging from definite to handicapping malocclusion, as per the DAI scores, and orthodontic treatment needs ranged from elective to mandatory. The perceived orthodontic treatment needs were more likely to be influenced by the perceived malocclusion and presence of normative malocclusion. Also, most children belonging to a younger age group were found with subjective orthodontic treatment need, with the majority of them belonging to class six.

396. Yondu, S.A. (2024). Effect of Direct Health Facility Financing on the Availability of Diabetic and Hypertensive Health Commodities in Primary Health Facilities in Dodoma Region. Muhimbili University of Health and Allied Sciences.

ABSTRACT

Background: In 2017, the Government of Tanzania launched Direct Health Facility Financing (DHFF) reforms, among others, aimed at enhancing the quality of health services in primary healthcare facilities and increasing the availability of essential health commodities. With the growing prevalence of Non-Communicable Diseases (NCDs), it became essential to examine the effect of DHFF on the availability of health commodities for diabetes and hypertension in these facilities. This study assessed how DHFF influenced the availability of diabetic and hypertensive health commodities in rural and urban primary healthcare facilities in the Dodoma Region. **Methods and Materials:** A cross-sectional analytical study design using a quantitative approach was conducted in two selected districts of the Dodoma region, with both rural and urban representation.

Budget, allocation, and expenditure data were extracted from the financial systems covering three (3) years to establish a trend concerning NCDs. In addition, data on the availability of hypertensive and diabetic health commodities were extracted from the electronic Logistic Management Information System (eLMIS). Financial data we reanalyzed by using Microsoft Excel. Budget, allocation, and expenditure data were disaggregated by level of healthcare facility and fund sources. These data constituted the essential/tracer commodities used in managing CDs and were disaggregated further by the level of health facilities, source, and geographical location. **Results:** The overall availability trends for hypertensive and diabetic commodities have generally improved over the years with an increase from 86% to 93% for 2021 to 2023, respectively. The overall availability of diabetic health commodities was higher compared to the hypertensive commodities, except for the fiscal years 2020/21. There was a significant difference in the availability of diabetic commodities between urban and rural areas each year, with rural areas consistently having higher availability compared to urban areas(p-value < 0.05). For the availability of Hypertensive health commodities, there was a significant difference in the year 2022/2023 between urban and rural (p-value <0.008), with urban areas having higher availability. The overall budget for health commodities has seen a consistent increase over the years. Specifically, in the fiscal year 2021/22 the total budget allocated was 979,778,729 TZS, out of which only 0.6% was allocated for NCD health commodities. The following year, 2022/23, showed an increase in both overall health commodities and NCD-specific allocation by 1.94%. However, in 2023/24, while the total budget for health commodities rose to 1,294,916,732 TZS, the total funds dedicated toNCDs decreased to 14,019,911 TZS. With regards to expenditure, in the fiscal year 2020/21, the total expenditure on health commodities was contributed by different funding sources thatareImprovedHealth Insurance (iCHF), Health Sector Basket Fund (HSBF), and National Health Insurance Fund (NHIF) and User fees. The iCHF contributed 21,790,818 TZS, HSBF-182,625,199 TZS, NHIF-35,433,772 TZS, and User Fees -93,681,451 TZS. **Conclusion:** The findings from this study suggest an overall increase in the availability of NCDs (diabetic and hypertensive) health commodities is contributed by DHFF reforms implementation by primary health facilities. Also, the

study found disparities in the availability of NCD health commodities between facilities located in rural and urban areas with better availability in urban.

397. Yusuf, S. (2024). Process evaluation of the implementation of intensive case finding and initiation of preventive and treatment of tuberculosis among people living with HIV in Ubungo municipal. Muhimbili University of Health and Allied Sciences.

ABSTRACT

Background: Tuberculosis has been proved to be the leading cause of mortality among people living with HIV. These two diseases have formed a dual epidemic which poses a great public health burden which drove the desire to establish a national policy guideline for collaborative TB and HIV activities aiming at synergizing the two parallel efforts aimed at reducing the burden of the two diseases. This was established since 2004 by WHO and further adopted in many countries including Tanzania by 2007. This addresses the implementation of Intensified case finding and as a strategy to be implemented in HIV care and treatment Clinics to reduce the burden of Tuberculosis among People living with HIV. However, since the establishment of this policy guideline, less is conversant on the implementation of Intensified TB Case Finding (ICF) strategy in the care and treatment clinics which is evidenced by the low TB presumptive rate of 3% seen at Ubungo Municipal. Therefore, this study intended to fill that knowledge gap. **Objective:** This study aimed to evaluate the extent of implementation of intensive case finding in the prevention and treatment of TB among people living with HIV in Ubungo Municipal. Materials and methods: The study was a descriptive cross-sectional study using data captured from the CTC 2 database of de-identified routinely collected data from people living with HIV attending HIV services in 31 care and treatment clinics in Ubungo Municipal council. Data collection was collected using data abstraction form “standard TB screening & IPT form for people infected with HIV”. Data analysis was done using a statistical software STATA for Windows version 18, frequencies and proportions determined and use of chi-square and P-values to establish statistical significance was

done to address the objectives. **Results:** The study included a total of 2,486 clients who were newly diagnosed with HIV in one year from January 2021 to December 2021 with a total of 27,696 up to December 2022. Nearly half of the participants were aged 30-45 years, with about 70.4% being female and nearly half enrolled in the Health centers at the time of start of ART. Majority of the clients more than 60% were enrolled with WHO stage 1 of vi HIV disease and their screening rate for Tuberculosis during all their visits was only by 69.4% completely screened in all visits seen to be more in dispensaries which are Tier 3 facilities, clients reported with WHO stage 1 of HIV disease and female clients were more likely to be screened by 100% in all their visits. Only 91.9% of clients that were screened negative for TB were initiated on IPT, with a completion rate of 82.4%. Amongst the tested positives for TB, 97.6% were initiated on Anti TB, with a completion rate of 75.8%. **Conclusion and Recommendations:** Even though the National policy guideline for collaborative TB/HIV activities advocates for a complete cascade of TB services with 100% screening, my study revealed that, there was incomplete TB screening where only 69.4% of the clients were screened by 100% in their visits. Amongst those who were screened negative for TB, only 91.9% were initiated on IPT and only 82.5% among the initiated, completed IPT. Amongst those who were screened positive and tested positive for TB, 97.6% were initiated on Anti-TB and only 75.8% completed Anti TB. Hence this revealed that the three was suboptimal provision of TB services among PLHIV as stipulated in the National policy guideline for collaborative TB and HIV services. A way to monitor and countercheck service provided by Health care workers to ensure that clients are provided with all the necessary services pertaining to intensive case finding ranging from TB screening to initiation and completion of IPT/Anti TB needs to be put in place. Frequent Data Quality Assessment to be conducted to identify gaps in documentation and prompt action to be taken.

398. Zinga, L. (2024). Treatment Patterns and Outcome of HER2+ Breast Cancer Patients in Tanzania. Muhimbili University of Health and Allied Sciences.

ABSTRACT

Background: Breast cancer is the second leading cause of death among women globally, with an approximately 20% rate of the HER2-positive (HER2+) subtype. This subtype is linked to poorer outcomes and higher mortality rates. Despite trastuzumab being the preferred treatment, many patients, especially in developing countries like Tanzania, are unable to access it due to financial constraints. Therefore, there is a need for local data on the survival outcomes and treatment patterns of HER2-positive breast cancer patients in resource-limited settings to guide optimal management strategies. **Objective**: to assess the treatment and survival outcomes of Tanzanian patients diagnosed with HER2—-positive (HER2+) breast cancer at Ocean Road Cancer Institute (ORCI) and Muhimbili National Hospital (MNH). **Materials and Methods**: This hospital-based retrospective study was conducted at ORCI and MNH from January 2018 to May 2021 by enrolling patients with HER2+ non-metastatic breast cancer. The dependent variable was a three-year overall survival rate. The independent variables were social demographics and clinic pathological characteristics such as hypertension, diabetes mellitus, histology, HIV, ER/PR status, stage at diagnosis, laterality, ECOG, age, marital status, occupation, menopause status, parity, education level, smoking, alcohol, and payment mode and treatment pattern. Survival analysis was done by using the Kaplan-Meier method. Cox regression analysis was used in the multivariate analysis. **Results**: In this study, 169 patients with HER2-positive breast cancer had a median age of 50. The majority had ductal carcinoma (92.3%), were estrogen receptor-positive (50.3%), and had stage III cancer (58.6%). Approximately 70.4% of the patients received Trastuzumab, 24.3% had neoadjuvant chemotherapy, and 95.9% underwent surgical treatment. Trastuzumab was commonly used in the adjuvant setting compared to the neoadjuvant setting and was more accessible to patients with higher socioeconomic status. The 3-year overall survival rate was 57%, with a median survival time of 72 months. Trastuzumab was associated with a 74% lower risk of mortality. Extended therapy with Trastuzumab was more beneficial in hormone negative HER2+ breast cancer compared to hormonal receptor-positive. Advanced-stage disease increased the likelihood of death, while not smoking and premenopausal status were linked to lower mortality. An ECOG score of more than one was associated with a higher mortality risk. **Conclusion:** The study found that

trastuzumab improved overall patient outcomes in breast cancer care. Extended trastuzumab therapy was associated with better survival rates, particularly in hormone receptor-negative HER2+ patients. The study also highlighted the significant role of socioeconomic factors in treatment accessibility and outcomes, including the impact of health insurance on survival rates. It also showed the association between a higher mortality rate and advanced cancer stage, ECOG, smoking, and menopausal status.

Keywords: HER2-positive, breast cancer, trastuzumab, treatment outcome, treatment pattern.

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