MUHIMBILI UNIVERSITY OF HEALTH AND ALLIED SCIENCES (MUHAS)

3rd SCIENTIFIC CONFERENCE

KUNDUCHI BEACH HOTEL,

DAR ES SALAAM

MAY 28-29, 2014

Conference Secretariat

Directorate of Continuing Education and Professional Development

P.O.BOX 65001

Tel: 255 22 2152431

Email: dce@muhas.ac.tz, conference@muhas.ac.tz

Conference Goals and Objectives

Muhimbili University of Health and Allied Sciences (MUHAS) is organizing its second scientific conference. The goals of the conference provides a forum for researchers, practitioners, decision makers, representatives of special groups, media and trainers to share research findings and experiences in health and health related issues as well as disseminate their findings to relevant stakeholders. This conference will take place at Kunduchi Beach hotel in Dar es Salaam, Tanzania from 14th – 15th May, 2014.

Conference Theme:The theme of the conference is "Health Research, Training and Innovation for Sustainable Development ".This conference aims to provide a forum to discuss health research findings on the achievements and challenges in achieving sustainable development. A variety of research areas subdivided in into five sub-themes will be presented at this conference as follows:

1. Basic research in health issues (BRHI)

i. Complementary and alternative approaches in healing practices (e.g. traditional medicine and nutraceuticals)
ii. Vaccines for preventable diseases (new development, coverage, preparedness, barriers and adverse reactions)
iii. Conflicts and challenges
iv. Emerging health challenges
v. Natural product research
vi. Infectious Diseases
vii. Climate change
viii. ICT and health
ix. Pharmaceutical care and formulation
x. Sociobehavioral issues related to health

2. Non communicable Disease (NCD)

i. Lifestyle related diseases
ii. Childhood obesity and inequalities
iii. Mental health
iv. Accidents and injuries
v. Various forms of violence and health outcomes
vi. Dental Health

3. Translating Health Research Findings into Policy and Practices

i. Best practices in prevention of communicable diseases (primary, secondary and tertiary)
ii. Best practices in prevention of non-communicable diseases (primary secondary and tertiary)
iii. Best practices from health systems and policy study findings (quality of health care: affordability, equity and accessibility)
iv. Innovations in health interventions

4. Progress in addressing Health Related Millennium Development Goals beyond 2015

i. MD Goal 4: Child morbidity and mortality
ii. MD Goal 5: Maternal Health
iii. MD Goal 6: HIV/AIDS, Malaria and Tuberculosis
iv. MD Goal 7: Environmental sustainability

5. Health System Research (HSR)

i. Training and opportunities for responding Human health resource crisis
ii. Health financing (insurance, user fee etc.)
iii. Equity and inequality in health
iv. Health systems strengthening indicators

Guest of Honor

The Conference will be officially opened by His Excellency, Dr. Mohamed Gharib Bilali, Vice President of the United Republic of Tanzania on Thursday, May 14th 2014 at 9:00am

Program and Book of abstracts

The program and book of abstracts provide a guided glance to the papers and posters to be presented and displayed respectively during the various sessions of the conference. The papers are divided into the sub-themes of the conference.

Steering Organizing Committee

1. G. Kwesigabo
2. S. Massawe
3. F. Mhalu
4. D. Mloka
5. K. Pallangyo
6. G. Frumence
7. I. Kida
8. E. Lyamuya
9. D. Gasarasi
10. A. kamuhabwa
11. O. Ngassapa
12. D. Ngassapa
13. J. Masalu
14. M. Moshi
15. E.Lyamuya
16. M. Bakari

Conference Organizing Committee

1. G. Kwesigabo
2. S. Massawe
3. F. Mhalu
4. D. Mloka
5. K. Pallangyo
6. G. Frumence
7. I. Kida
8. S. Anthony
9. E. Lyamuya
10. D. Gasarasi
11. A. Kamuhabwa
12. F. Kahabuka
13. M. Bakari
14. C. Mbekenga
15. A.Nko
16. E. Lwoga
17. M.Moshi
18. O. Chillo.
19. J. Otenino
20. J. Masalu
21. M. Aboud
22. H. Mtui
23. N. Mkali
24. C. Katisho
25. M. Kazia
26. R.Chikalile
27. L Mgao
28. S. Anthony
29. M. Mgonja
30. S. Aboud
31. A. Kamtemi

CONFERENCE AT A GLANCE

TIME	WEDNESDAY 14TH - MAY 2014
08:00- 09:00	POSTER VIEWING AND REGISTRATION
09:00–10:30	OPENING CEREMONY
10: 30 - 11:00	COFEE/TEABREAK
11: 00 - 11:30	Key Note Address 1: **Linking Mobile Communication With Health:** Professor John S. Nkoma
11: 40- 13:15	**PARALLEL SESSION 1:** MDG 1, POLICY 1 & NCD 1 and 2
13:15 - 14:15	LUNCH AND POSTER VIEWING
14:15 - 15:45	**PARALLEL SESSION 2:** MDG 2, BHR 1, HSR & NCD 3
15:45 - 16:15	COFEE/TEABREAK
16:15 - 17:00	**PARALLEL SESSION 3:** MDG 3, MDG 4, BHR 2 & POLICY 2
18.00 – 20:00	COCKTAIL PARTY

TIME	THURSDAY, 15TH, MAY 2014
08:00- 09:00	POSTER VIEWING AND REGISTRATION
09:00–09:30	Key Note Address 2: **Non communicable Disease** Dr. Kaushik Ramaiya
09:40 - 11:10	**PARALLEL SESSION 4:** MDG, BHR, POLICY & NCD
11: 10 - 11:40	COFEE/TEA BREAK
11: 40- 13:10	**PARALLEL SESSION 5:** MDG, BHR, POLICY & NCD
13:10 - 14:10	LUNCH AND POSTER VIEWING
14:10 - 15:00	**PARALLEL SESSION 6:** BHR 1-4,
15.00-15.30	COFEE/TEA BREAK
15.30 – 16.30	CLOSING CEREMONY

THEMES ABBREVIATIONS
MDG: Millennium goals beyond 2015
HRH: Health System Research
TRP: Translating health research findings **i**nto policy and practices
NCD: Non communicable Disease
BRH: Basic research in health issues

CONFERENCE PROGRAM

DAY 1

OPENING CEREMONY

TIME	ACTIVITY
08:00- 09:00	Registration and Poster Viewing
09:00–10:30	Opening Ceremony
10: 30 - 11:00	Coffee/Tea Break

WEDNESDAY, 14th – MAY, 2014
KEY NOTE ADDRESS: KIKWETE HALL
TITLE: LIKING MOBILE COMMUNICATION WITH HEALTH
CHAIR: PROF E. LYAMUYA
RAPPORTEUR: PROF. F. KAHABUKA

TIME	ACTIVITY
11:00-11:20	Linking Mobile Communication with Health Professor John S. Nkoma, Director General, Tanzania Communications Regulatory Authority
11:20 – 11:30	Discussion

PARALLEL SESSION 1

WEDNESDAY, 14th – MAY, 2014, 11:40 – 13:15
PARALLEL SESSION: MKAPA HALL 1
THEME: **NON COMMUNICABLE DISEASES - 1**
CHAIR: PROF. S. ABOUD
RAPPORTEUR: DR. T. MSELLE

TIME	ACTIVITY
11:40 – 11:50	1. Arteriogenesis: A natural arteriolar bypass in occlusive cardiovascular diseases. The role of mast cells. **(Chillo O)**
11:50 – 12:00	2. The Vascular Function Intervention Trial (VFIT) in Tanzanian children with sickle cell anemia. **(Sharon C).**
12.00 – 12:10	3. Prevalence, correlates and prognostic implications of anemia and iron deficiency in Tanzanian patients with heart failure: A report from the TaHeF study. **(Makubi A)**
12:10 -12:20	4. Knowledge and preference on mode of delivery among antenatal attendees at Muhimbili National Hospital. **(Kimario J)**

12:20 – 12:35	5. Effects of coexistence of sickle cell and fetal hemoglobin on Malaria in Tanzania. **(Mbando B)**
12:35 – 12:45	6. Contemporary etiology, clinical characteristics and prognosis of adults with heart failure observed in a tertiary hospital in Tanzania. The prospective Tanzania Heart. **(Makubi A)**
12:45 – 13:15	DISCUSSION
13:15 – 14:15	LUNCH

WEDNESDAY, 14th – MAY, 2014, 11:40 – 13:15
PARALLEL SESSION: MANDELA HALL
THEME: **NON-COMMUNICABLE DISEASES**- 2
CHAIR: PROF. F. KAHABUKA.
RAPPORTEUR: DR. HAWA MBAWALA

TIME	ACTIVITY
11:40 – 11:50	7. Pediatric trauma causes, patterns and early intervention at the Muhimbili National hospital emergency department in Dar es salaam, Tanzania. (**Mfinanga J**).
11:50 – 12:00	8. Neonatal deaths in rural southern Tanzania: care-seeking and causes of death. **(Mrisho M)**
12.00 – 12:10	9. A Burned Child's Pain during Treatment as Assessed by the Child, Caregiver and Nurse. **(Lekule J)**
12:10 -12:20	10. The undiagnosed patient: Psychiatric evaluation among children and adolescents within Juvenile Systems, Tanzania. **(Mbelwa S)**
12:20 – 12:35	11. The psychosocial impacts on families when caring relative(s) with mental illness. **(Kidula M)**
12:35 – 12:45	12. Persistent mental illness stigma in Ilala municipal Dar es salaam, Tanzania. **(Maboja C)**
12:45 – 13:15	Discussion
13:15 – 14:15	LUNCH

PARALLEL SESSION: MKAPA HALL 2
THEME: **TRANSLATING HEALTH RESEARCH FINDINGS INTO POLICY AND PRACTICES-1**
CHAIR: PROF. M. MOSHI
RAPPORTEUR: MR. E. NYELLA

TIME	ACTIVITY
11:40 – 11:50	13. Use of mobile health: Awareness of pregnancy danger signs among women in Bagamoyo district. **(Mhila G)**
11:50 – 12:00	14. Supporting faculty with best practices in online education**(Amon Y)**
12.00 – 12:10	15. Using cases to teach public health at Muhimbili University of Health and Allied Sciences. **(Wolff J)**
12:10 -12:20	16. Evidence based health care practices and information seeking behavior of health care professionals in Tanzania. **(Lwoga E)**
12:20 – 12:35	17. Performing arts as entertainment-education method for health communication: Reflections from rift valley fever project in Kongwa, Tanzania. **(Hizza R)**
12:35 – 12:45	18. Research productivity and web visibility of dental faculty at Muhimbili University of Health and Allied Sciences: A scientometric analysis. **(Lwoga E)**
12:45 – 13:15	Discussion
13:15 – 14:15	LUNCH

WEDNESDAY, 14th – MAY, 2014, 11:40 – 13:15
PARALLEL SESSION: KIKWETE HALL
THEME: MILLENNIUM DEVELOPMENT GOALS BEYOND 2015 - 1
CHAIR: PROF. S. MASSAWE
RAPPORTEUR: DR. R. MPEMBENI

TIME	ACTIVITY
11:40 – 11:50	19. "Snow-ball" was the best method for recruiting volunteers to a third HIV phase 2 vaccine trial in Dar es Salaam, Tanzania. **(Munseri P)**
11:50 – 12:00	20. Participation of the prisons service in HIV vaccine trials co-ordinated by the Muhimbili University of Health and Allied Sciences, Dar es salaam, Tanzania. **(Mangara H)**
12.00 – 12:10	21. Experiences and challenges in handling investigational products for an HIV vaccine clinical trial in Dar es salaam, Tanzania. **(Kabadi L).**
12:10 -12:20	22. Thirty years of HIV and AIDS Research at the Muhimbili University of Health and Allied Sciences: Successes and challenges with special reference to the TANSWED HIV Programme. **(Mhalu F)**
12:20 – 12:35	23. Participation of the police force in HIV research in

	collaboration with MUHAS. **(Msuya S)**
12:35 – 12:45	24. A high baseline morbidity among adult volunteers for HIV vaccine trial in Dar es Salaam. **(Ngatoluwa M)**
12:45 – 13:15	Discussion
13:15 – 14:15	LUNCH

PARALLEL SESSION 2

WEDNESDAY, 14th – MAY, 2014, 14:15 – 15:45
PARALLEL SESSION: MKAPA 2
THEME: **HEALTH SYSTEM RESEARCH** - 1
CHAIR: PROF. J. KILLEWO
RAPPORTEUR: MR. D. CHITAMA

TIME	ACTIVITY
14:15 – 14:25	25. Assessing partner organizations' investments in health: Experience from Morogoro region, Tanzania. **(Frumence G)**
14:25 – 14:35	26. Household and health facility factors for Low Enrolment to CHF Scheme in Rombo District. **(Shayo J)**
14:35 – 14:45	27. Perceptions towards the role of exemption scheme in utilization of health services among most vulnerable children in Tanga. **(Kanza A)**
14:45 – 14:55	28. Human Resources for health crisis fallacy: A crisis of numbers or management systems? **(Kiwara A)**
14:55 – 15:05	29. Using technology and case-based approaches to compare HIV in Tanzania and the US. **(Semakafu A/** Purvis L**)**
15:05 – 15:15	30. Training and deployment of graduate level Human Resource for health: A critical input for Vision 2025 Health sector goals. **(Sirili N)**
15:15 – 15:45	Discussion
15:45 – 16:15	TEA/COFFEE

WEDNESDAY, 14th – MAY, 2014, 14:15 – 15:45
PARALLEL SESSION: MANDELA
THEME: **NON COMMUNICABLE DISEASES - 3**
CHAIR: PROF D. NGASSAPA
RAPPORTEUR: DR. A. MAKUBI

TIME	ACTIVITY
14:15 – 14:25	31. Dental practitioners' use of behavior management techniques during treatment of pediatric dental patients in Dar es Salaam. **(Mbawalla H)**
14:25 – 14:35	32. Factors associated with early childhood caries in 2-5 year olds attending dental treatment at Muhimbili University Dental

	Clinic. **(Conrad M)**
14:35 – 14:45	33. Prevalence of dental caries and associated risk among adults in Ilala District, Dar-es-Salaam, Tanzania. **(Mhako C)**
14:45 – 14:55	34. Treatment time, outcome, and anchorage loss comparisons of self-ligating and conventional brackets. **(Machibya F)**
14:55 – 15:05	35. Satisfaction with treatment among patients who underwent tooth extraction under local anaesthesia at the Oral and Maxillofacial Surgery Department, School of Dentistry. (**Simon E)**
15:05 – 15:15	36. Intracranial cystic tumors with mural nodule: conventional, diffusion tensor, perfusion MR Imaging findings. **(Jacob M).**
15:15 – 15:45	Discussion
15:45 – 16:15	TEA/COFFEE

WEDNESDAY, 14th – MAY, 2014, 14:15 – 15:45
PARALLEL SESSION: MKAPA 1
THEME: **BASIC RESEARCH IN HEALTH ISSUES -1**
CHAIR: PROF. A. KAMUHABWA
RAPPORTEUR: DR. E. NGAIMISI

TIME	ACTIVITY
14:15 – 14:25	37. The quality of circulating paracetamol in our local market.**(Tibalinda P)**
14:25 – 14:35	38. Mapping of medicines storage conditions in warehouses and retail outlets in Tanzania. **(Nzinza M)**
14:35 – 14:45	39. Pharmacy refill adherence outperforms self-reported methods in predicting HIV therapy outcome in resource-limited settings. **(Sangeda R)**
14:45 – 14:55	40. Development and validation of near infrared spectroscopy screening method for quality consistency assessment of virgin sunflower oil. **(Luyangi F)**
14:55 – 15:05	41. Development and validation of an HPTLC analytical method for bisphenol A release from infant feeding bottles. **(Muro L)**
15:05 – 15:15	42. Formulation development of generic omeprazole 20 mg enteric coated tablets. **(Migoha C)**
15:15 – 15:45	Discussion
15:45 – 16:15	TEA/COFFEE

WEDNESDAY, 14th – MAY, 2014, 14:15 – 15:45
PARALLEL SESSION: KIKWETE
THEME: **MILLENNIUM DEVELOPMENT GOALS BEYOND 2015 -2**
CHAIR: PROF. S. MASSAWE
RAPPORTEUR: DR. O. CHILLO

TIME	ACTIVITY
14:15 – 14:25	43. Swedish validation of The Impact of Miscarriage Scale (IMS) after miscarriage. **(Jansson C)**

14:25 – 14:35	44. Predictors of exclusive breastfeeding among women with children aged 6 to 12 months and the roles of elderly women in promoting the practice in Mkuranga district. **(Katana D)**
14:35 – 14:45	45. "We have been working overnight without sleeping". Traditional Birth Attendants' practices and perceptions of postpartum care services in rural Tanzania. **(Mahiti G)**
14:45 – 14:55	46. Cytokines profile of women with or without pre-eclampsia in Dar es Salaam, Tanzania. **(Mpinda C)**
14:55 – 15:05	47. Knowledge, attitude and use of modern family planning methods among HIVinfected women in Songea Municipality. **(Mushi E)**
15:05 – 15:15	48. Prevalence and pregnancy outcome of domestic violence in pregnancy among antenatal clinic attendees in Songea. **(Said A)**
15:15 – 15:45	Discussion
15:45 – 16:15	TEA/COFFEE

PARALLEL SESSION 3

WEDNESDAY, 14th – MAY, 2014, 16:15 – 17:00
PARALLEL SESSION: MANDELA HALL
THEME: **BASIC RESEARCH IN HEALTH ISSUES** -2
CHAIR: DR. G. KWESIGABO
RAPPORTEUR: DR. M. LYIMO

TIME	ACTIVITY
16:15 – 16:25	49. Risk behaviors and perceived susceptibility to HIV infection among MSM in Dar es Salaam, Tanzania. **(Leshabari M)**
16:25 – 16:35	50. The relevance of social behaviour methodologies for HIV Vaccine Immunogenicity Study (HIVIS-03), a Phase I/II HIV vaccine trial in Tanzania. **(Tarimo E)**
16.35 – 16:45	51. Emic perspectives on community-based HIV prevention work among MSM in Dar es Salaam. **(Moen K)**
16:45 – 17:00	Discussion
17:00	END OF DAY ONE

WEDNESDAY, 14th – MAY, 2014, 16:15 – 17:00
PARALLEL SESSION: KIKWETE HALL
THEME: **MILLENNIUM DEVELOPMENT GOALS BEYOND 2015 - 3**
CHAIR: PROF. S. MASSELE
RAPPORTEUR: DR. A. JOACHIM

TIME	ACTIVITY
16:15 – 16:25	52. Polymorphisms in pfcrt and pfmdr:Risk factors that affect treatment outcomes after artemether - Lumenfatrine and artesunate- amodiaquine for falciparum malaria. **(Ngasala B)**
16:25 – 16:35	53. Social-economic factors affecting malaria preventive initiatives in rural communities Tanzania. **(Mashasi I)**
16.35 – 16:45	54. Phase II Evaluation of three rapid diagnostic tests (CareStart Malaria HRP-2, pLDH[Pf-pLDH/pan-pLDH] and HRP-2/pLDH(Pf/pan)Combo Tests) for the diagnosis of Malaria. **(Ngasala B)**
16:45 – 17:00	Discussion
17:00	END OF DAY ONE

WEDNESDAY, 14th – MAY, 2014 16:15 – 17:00
PARALLEL SESSION: MKAPA HALL 1

THEME: MILLENNIUM DEVELOPMENT GOALS BEYOND 2015 - 4
CHAIR: DR. E. KAALE
RAPPORTEUR: DR. V. MANYANGA

TIME	ACTIVITY
16:15 – 16:25	55. Clinical and Immunological Effects of a reduced daily dose of Stavudine among antiretroviral naïve HIV-infected individuals in Dar es Salaam, Tanzania: A randomized, controlled study. **(Buma D)**
16:25 – 16:35	56. Assessment of lipid profile in HIV infected patients on the first line antiretroviral therapy. **(Ombeni W)**
16.35 – 16:45	57. Nevirapine-induced hepatotoxicity in HIV patients attending care and treatment clinics in Iringa regional hospital. **(Mafuru M)**
16:45 – 17:00	Discussion
17:00	END OF DAY ONE

WEDNESDAY, 14th – MAY, 2014, 16:15 – 17:00
PARALLEL SESSION: MKAPA HALL 2
THEME: **TRANSLATING HEALTH RESEARCH FINDINGS INTO POLICY AND PRACTICES - 2**
CHAIR: DR. G. FRUMENCE
RAPPORTEUR: DR. E. KABYEMELA

TIME	ACTIVITY
16:15 – 16:25	58. Moving towards ART for life for pregnant and lactating mothers in Tanzania: An exploratory qualitative study of stakeholder viewpoints. **(Chebet J)**
16:25 – 16:35	59. Effectiveness of workplace HIV/AIDS policy and programme interventions in commercial plantations in Iringa region. **(Matimbwi T)**
16.35 – 16:45	60. Motivation and job satisfaction of community health workers in Morogoro region Tanzania. **(Mpembeni R)**
16:45 – 17:00	Discussion
17:00 -	END OF DAY ONE

CONFERENCE PROGRAM

DAY 2

THURSDAY, 15th – MAY, 2014, 08:00 – 09:30
KEY NOTE ADDRESS: KIKWETE HALL
TITLE: NON-COMMUNICABLE DISEASES
CHAIR: PROF. M. ABOUD
RAPPORTEUR: DR. D. MLOKA

TIME	ACTIVITY
08:00- 09:00	Registration and Poster Viewing
09:00-09:20	Non-Communicable diseases. Dr. Kaushik Ramaiya, Executive Director Hindu Mandel Hospital, and Member of the International Diabetes Federation (IDF).
09:20 – 09:30	Discussion

PARALLEL SESSION 4

THURSDAY, 15th – MAY, 2014, 09:40 – 11:10
PARALLEL SESSION: MKAPA HALL 2
THEME: **TRANSLATING HEALTH RESEARCH FINDINGS INTO POLICY AND PRACTICES - 3**
CHAIR: PROF. A. KIWARA
RAPPORTEUR: DR. I. KIDA

TIME	ACTIVITY
09:40 – 09:50	61. Current efficacy of sulphadoxine-pyrimethamine (sp) for intermittent preventive treatment of malaria during pregnancy in Dar es Salaam. **(Amiri R)**
09:50 – 10:00	62. Defining therapeutic day 7 lumefantrine concentration thresholds in uncomplicated falciparum malaria. **(Ngasala B)**
10.00 – 10:10	63. Availability and utilization of mRDTs in private health facilities, Tanzania.**(Mkombachepa M**)
10:10 – 10:20	64. Health workers and maternal health. Exploring governance issues within a rural district, Tanzania. **(Mkoka D)**
10:20 – 10:30	65. Barriers facing Health workers in providing family planning services in rural areas: A case of Morogoro region Tanzania. **(Mosha I)**
10:30 – 10:40	66. Incentives for motivating and retaining Community Health Workers (CHWs) and their relative importance; Insights from Discrete Choice Experiment in Morogoro rural-Tanzania. **(Chitama D)**

10:40 – 11:10	Discussion
11:10 – 11:40	TEA/COFFEE

THURSDAY, 15th – MAY, 2014, 09:40 – 11:10
PARALLEL SESSION: MANDELA HALL
THEME: **NON COMMUNICABLE DISEASES - 4**
CHAIR: PROF. M. LESHABARI
RAPPORTEUR: DR. O. CHIILLO

TIME	ACTIVITY
09:40 – 09:50	67. Screening for impaired glucose Tolerance and Type 2 Diabetes Mellitus in rural and urban settings in Kilombero district, Tanzania. **(Donath D)**
09:50 – 10:00	68. Effects of leisure time physical activity on metabolic profile in adult city- dwellers with overweight, obesity or type 2 diabetes in Tanzania. **(Mashili F)**
10.00 – 10:10	69. Health care for diabetes in rural Tanzania. **(Mwangome M)**
10:10 – 10:20	70. Lived experiences on use of diabetic medications and continuity among adults in South Eastern Tanzania. (**Metta E)**
10:20 – 10:30	71. Latent life related diseases in Dodoma Municipality, Dodoma. (**Mutabazi S)**
10:30 – 10:40	72. Prevalence and risk factors for sleep apnoea hypopnea syndrome in Kinondoni municipality, Dar es Salaam Tanzania. **(Shayo G)**
10:40 – 11:10	Discussion
11:10 – 11:40	TEA/COFFEE

THURSDAY, 15th – MAY, 2014, 09:40 – 11:10
PARALLEL SESSION: KIKWETE
THEME:**MILLENNIUM GOALS BEYOND 2015 - 5**
CHAIR: PROF. F. MHALU
RAPPORTEUR: DR. T. MSELLE

TIME	ACTIVITY
09:40 – 09:50	73. Men's knowledge of obstetric danger signs, birth preparedness and emergency readiness in rural Tanzania. **(August F)**
09:50 – 10:00	74. Women's preferences regarding infant or maternal antiretroviral prophylaxis for prevention of mother-to-child transmission of HIV during breastfeeding and their views on Option B+ in Dar es Salaam, Tanzania. **(Ngarina M)**
10.00 – 10:10	75. Adherence to antiretroviral therapy among HIV infected children in

	Dar Es Salaam, Tanzania- risk of applying one adherence determination method. **(Minzi O)**
10:10 – 10:20	76. An analysis of pre-service family planning teaching in clinical and nursing education in Tanzania. **(Muganyizi P)**
10:20 – 10:30	77. Utilization of reproductive health services among secondary school youths in Iringa Municipality, 2012. **(Kamugisha H)**
10:30 – 10:40	78. Contraceptive knowledge, attitude and practice among secondary school girls in Morogoro municipality. **(Swai E)**
10:40 – 11:10	Discussion
11:10 – 11:40	TEA/COFFEE

THURSDAY, 15th – MAY, 2014, 09:40 – 11:10
PARALLEL SESSION: MKAPA HALL 1
THEME: **BASIC RESEARCHIN HEALTH ISSUES - 3**
CHAIR: DR. G. KWESIGABO
RAPPORTEUR: DR. R.KISENGE

TIME	ACTIVITY
09:40 – 09:50	79. Flour dust and respiratory health among flour milling workers in Dar es Salaam-a cross sectional study. **(Mlelwa R)**
09:50 – 10:00	80. Increased respiratory health symptoms among street cleaners of Dar es Salaam city. **(Mamuya S)**
10.00 – 10:10	81. Patterns of severe traumatic work-related injuries in Tanzania. **(Kishashu Y)**
10:10 – 10:20	82. Symptom based screening tool in ruling out active tuberculosis among HIV infected patients eligible for isoniazid preventive therapy in Tanzania. **(Shayo G)**
10:20 – 10:30	83. Diverse predominance of *Mycobacterium tuberculosis* strain families for human TB isolates from the Serengeti ecosystem of Tanzania. **(Mbugi E)**
10:30 – 10:40	84. Endoscopic and clinicopathological patterns of esophageal cancer in Tanzania: experiences from two tertiary health institutions. **(Mchembe M)**
10:40 – 11:10	Discussion
11:10 – 11:40	TEA/COFFEE

PARALLEL SESSION 5

THURSDAY, 15th – MAY, 2014, 11:40 – 13:10
PARALLEL SESSION: KIKWETE
THEME: MILLENNIUM DEVELOPMENT GOALS BEYOND 2015 -6
CHAIR: PROF. F. MHALU
RAPPORTEUR: DR. H. SAWE

TIME	ACTIVITY
11:40 – 11:50	85. Venues, incentives and type of partner for the first anal sexual experience among men-who-have sex with men in Dar es salaam, Tanzania. **(Leshabari M)**
11:50 – 12:00	86. Assessment of provider initiated and HIV testing and counseling (PITC) programme in Ilala, Dar es salaam in Tanzania. **(Mushi L)**
12:00 – 12:10	87. Seroprevalence of HIV, HBV, HCV and syphilis and associated risk factors in the fishing community in Mwanza, Tanzania. **(Kabamanya S)**
12:10 – 12:20	88. Contraceptive practices in youths willing to participate in HIV vaccine trial in Dar es Salaam. **(Mbunda T)**
12:20 – 12:30	89. A study of the prevalence of infectious markers in blood donors in rural areas. The case of Kamina hospital. **(Nzaji M)**
12:30 – 12:40	90. Parasite clearance and recurrence time following treatment with Artemether/Lumefantrine among children with uncomplicated malaria. **(Mwaiswelo R)**
12:40 – 13:10	Discussion
13:10 – 14:10	LUNCH

THURSDAY 15th – MAY, 2014, 11:40 – 13:10
PARALLEL SESSION: MANDELA
THEME: **NON-COMMUNICABLE DISEASES**- 5
CHAIR: DR. JOYCE MASALU
RAPPORTEUR: PROF. K. MWAMBETE

TIME	ACTIVITY
11:40 – 11:50	91. Outcomes of patients with and without pulmonary hypertension who underwent cardiac surgery at Muhimbili 2008 – 2012. **(Mutagaywa R)**
11:50 – 12:00	92. Perceptions of healthy eating and identity-making among University students in Tanzania: A qualitative study. **(Nyato D)**
12:00 – 12:10	93. Effectiveness of nutritional counseling on nutrition status of children with cerebral palsy: A methodological paper. **(Mlinda S)**
12:10 – 12:20	94. Sickle cell disease in pregnancy: An emerging challenge in

	obstetric practice in Tanzania. **(Muganyizi P)**
12:20 – 12:30	95. a+_thalassemia, and red cell growth factors, but not placental malaria, contribute to fetal anemia risk in Tanzania. **(Kabyemela E)**
12:30 – 12:40	96. Description of F cells in sickle cell anemia in Tanzania. **(Urio F)**
12:40 – 13:10	Discussion
13:10 – 14:10	LUNCH

THURSDAY, 15th – MAY, 2014, 11:40 – 13:10
PARALLEL SESSION: MKAPA HALL I
THEME: **BASIC RESEARCH IN HEALTH ISSUES - 4**
CHAIR: DR. D. GASARASI
RAPPORTEUR: DR. A. MAKUBI

TIME	ACTIVITY
11:40 – 11:50	97. Methicillin-resistantstaphylococcus aureus (MRSA) colonization among intensive care unit (ICU) patients and health care workers at Muhimbili national hospital, Dar es salaam, Tanzania. **(Alfred G)**
11:50 – 12:00	98. The prevalence of urinary tract infection in pregnancy among pregnant women attending antenatal clinic at Muhimbili national hospital. **(Kweyamba E)**
12:00 – 12:10	99. Detection of carbapenems resistance using disc diffusion, E-test and PCR: Sensitivity and specificity of disc diffusion method. **(Mushi M)**
12:10 – 12:20	100. Computerized tomographic scan findings in children with cerebral palsy seen at ABUTH Zaria, Nigeria. **(Ibinaiye P)**
12:20 – 12:30	101. Magnetic resonance imaging pattern of spine degenerative disease in adults with low back pain in Dar es salaam, Tanzania. **(Jacob M)**
12:30 – 12:40	102. Ultrasound measurement of the inferior vena cava to evaluate volume status in patients requiring fluid resuscitation at emergency department, MNH. **(Sawe H)**
12:40 – 13:10	Discussion
13:10 – 14:10	LUNCH

THURSDAY, 15th – MAY, 2014, 11:40 – 13:10
PARALLEL SESSION: MKAPA HALL 2
THEME: **TRANSLATING HEALTH RESEARCH FINDINGS INTO POLICY AND PRACTICES - 4**
CHAIR: PROF. O. NGASSAPA

RAPPORTEUR: DR. J. MFINANGA

TIME	ACTIVITY
11:40 – 11:50	103. Institutionalized gender inequity in secondary education in Tanzania: Exploring the community schools access. **(Semakafu A)**
11:50 – 12:00	104. Knowledge and attitude towards rape and child sexual abuse- community-based cross-sectional study in rural Tanzania. **(Abeid M)**
12:00 – 12:10	105. Contextual factors of youth experiencing violent death in Dar es Salaam, Tanzania. **(Outwater A)**
12:10 – 12:20	106. Institutional Research Ethics Committees (IRECs) in Tanzania: The current status at health research institutions. **(Ikingura J)**
12:20 – 12:30	107. Living conditions in the slums of Kisumu, Kenya: Challenges and Opportunities for Sustainability. **(Simiyu S)**
12:30 – 12:40	108. Youth unemployment, community violence, creating opportunities in Dar es Salaam, Tanzania: A qualitative study. **(Outwater A)**
12:40 – 13:10	Discussion
13:10 – 14:10	LUNCH

PARALLEL SESSION 6

THURSDAY, 15th – MAY, 2014, 14:10 – 15:00
PARALLEL SESSION: KIKWETE HALL
THEME: **BASIC RESEARCH IN HEALTH ISSUES - 5**
CHAIR: DR. B. NGASALA
RAPPORTEUR: DR. H. NABURI

TIME	ACTIVITY
14:10 – 14:20	109. Evidence of continued transmission of Wuchereria bancrofti despite nine rounds of Ivermectin and Albendazole mass drug administration in Rufiji district, Tanzania. **(Jones C)**
14:20 – 14:30	110. Epidemiology of intestinal schistosomiasis in selected localities along the shores of Lake Tanganyika, Tanzania. **(Bakuza J)**
14:30 – 14:40	111. Impact of Praziquantel mass drug administration campaign on prevalence and intensity of schistosoma haemamtobium among schoolchildren in Bahi district, Tanzania. **(Chaula S)**
14:40 – 15:00	Discussion
15:00 – 15:30	TEA/COFFEE

THURSDAY, 15th – MAY, 2014, 14:10 – 15:00
PARALLEL SESSION: MKAPA HALL 2
THEME: **BASIC RESEARCH IN HEALTH ISSUES -** 6
CHAIR: PROF. M. MOSHI
RAPPORTEUR: DR. S. MAREGESI

TIME	ACTIVITY
14:10 – 14:20	112. Comparison of the effects of extracts from three vitex plant species on anopheles gambiae s.s. (diptera: culicidae) larvae. **(Nyamoita M)**
14:20 – 14:30	113. Biologically important Mammea-type Coumarin compounds from Mammea usambarensis Verdc. **(Magadula J)**
14:30 – 14:40	114. Documentation and in-vitro antimalarial activity of medicinal plants used to treat Malaria in Tanzania. **(Nondo R)**
14:40 – 15:00	Discussion
15:00 – 15:30	TEA/COFFEE

THURSDAY, 15th – MAY, 2014, 14:10 – 15:00
PARALLEL SESSION: MKAPA HALL I
THEME: **BASIC RESEARCH IN HEALTH ISSUES - 7**
CHAIR: DR. D. MLOKA
RAPPORTEUR: DR. R. SANGEDA

TIME	ACTIVITY
14:10 – 14:20	115. Investigating the determinants of efavirenz pharmacokinetics after long term treatment with and without rifampicin among Tanzanian HIV/TB and HIV patients. **(Kitabi E)**
14:20 – 14:30	116. Optimizations of dissolution sink conditions for efavirenz 600 mg tablet. **(Shedafa R)**
14:30 – 14:40	117. A quantitative near infrared spectroscopy model for assessment of efavirenz tablets. **(Mugoyela G)**
14:40 – 15:00	Discussion
15:00 – 15:30	TEA/COFFEE

THURSDAY, 15th – MAY, 2014, 14:10 – 15:00
PARALLEL SESSION: MANDELA
THEME: **BASIC RESEARCH IN HEALTH ISSUES - 8**
CHAIR: PROF. O. NGASSAPA
RAPPORTEUR: DR. I.KIDA

TIME	ACTIVITY
14:10 – 14:20	118. Physical and microbial contaminants of cattle slaughtering sites: Implications to human health in rural Tabora, Tanzania. **(Bagarama F)**
14:20 – 14:30	119. The factors affecting multi-sectorial collaboration response to rift valley fever outbreak in Kongwa district. **(Rama E)**
14:30 – 14:40	120. Experiences in recruiting youths into TaMoVac-01 HIV vaccine trial at MUHAS. **(Massawa T)**
14:40 – 15:00	Discussion
15:00 – 15:30	TEA/COFFEE

CLOSING CEREMONY

TIME	ACTIVITY
15:30 – 15:40	Conference Overview (Prof. F. Mhalu)
15:40 – 15:50	Remarks from MUHAS Vice Chancellor (Prof. E. Kaaya)
15:50 – 16:30	Closing address by Minister of Health and Social Welfare. Hon. Dr. Seif Rashidi

ORAL ABSTRACTS

WEDNESDAY, 14th – MAY, 2014, 11:40 – 13:15
THEME: **NON COMMUNICABLE DISEASES 1**

1. Title: Arteriogenesis: A natural arteriolar bypass in occlusive cardiovascular diseases. The role of mast cells

Author(s): Chillo O[1], Pagel J[1], Kleinert E[1], Caballero A[1], Mauer A[2], Hoecker J[3], Troidl K[4], Fischer S[2], Preissner K[2], Reichel C[1], Deindl E[1]

Institutions:
[1]Walter-Brendel-Centre of Experimental Medicine, Ludwig-Maximilians-University, Munich, Ge
[2] Biochemical Institute, Justus-Liebig-University, Giessen, Germany
[3]Institute of Pathology, Ludwig-Maximilians-University, Munich, Germany
[4] Max-Planck-Institute for Heart and Lung Research, Bad Nauheim, Germany

Background: Occlusive cardiovascular diseases are the leading course of death worldwide. Although surgical revascularization remains to be the treatment of choice for most patients, therapeutic promotion of arteriolar bypass (arteriogenesis) presents an alternative to patients in which surgical intervention is not possible.
Aim: Here I present the novel concept of arteriogenesis, its milestones in the scientific world and the contribution of mast cells as new players in arteriogenesis.
Methods: To investigate the role of mast cells in arteriogenesis, we apply different substances to influence mast cell stabilization (cromolyn), recruitment (diprotin A), degranulation (compound (C) 48/80), or both, recruitment and degranulation. Controls were treated with 0.9% saline. Perfusion of the distal hindlimb was measured using Laser Doppler Imaging at different time points before and after femoral ligation. Adductors and gastrocnemii were analysed by means of histology and immunohistochemistry.
Results: Reperfusion was significantly improved following mast cell degranulation by either C48/80 alone or in combination with diprotin A, whereas mast cell stabilization was associated with poor perfusion recovery. In vitro mast cells furthered proliferation of primary murine ECs and SMCs, and immunohistochemistry evidenced that mast cells contain FGF-2 and PDGF-BB. Mice treated with a combination of C48/80+DipA revealed increased leukocyte recruitment around growing collateral arteries, more proliferating vascular cells, significant increase in collateral luminal diameter and less distal tissue damage in comparison to the controls. FACS revealed increased macrophages and mast cell population following C48/80 treatment. Collaterals showed significantly increased levels of MCP-1 mRNA, and also higher MMP-9 activity in C48/80+DipA treated animals, whereas the TNF-α serum level was significantly lower in cromolyn treated mice.
Conclusion: Mast cells are central in arteriogenesis and their degranulation prevents distal ischemic damage.

2. Title: The Vascular Function Intervention Trial (VFIT) in Tanzanian children with sickle cell anemia: A description.

Author(s): Cox S[1,2], Makani J[2], Ellins E[3,4], Kamala B[2], Walter G[2], Mtunguja S[2], Khalfan N[2], Kirkham F[5], Newton C[2,6], Halcox J[3]& Prentice A[1].

Institutions:
[1]LSHTM, UK
[2]Muhimbili Wellcome Programme, MUHAS, Tanzania
[3]University of Swansea, UK
[4]University of Cardiff, UK
[5]UCL, UK
[6]University of Oxford, UK

Introduction: Poor macro- and micro-nutritional status and reduced growth are common in children with sickle cell anemia (SCA). Reduced nutritional status at enrolment is associated with increased hospitalization rate in the Muhimbili Sickle Cohort (MSC) [1]. Tested interventions to improve nutritional status in SCA are lacking. Much of SCA-associated chronic disease may be caused by vascular damage from RBC breakdown, reduced arginine substrate for endothelial nitric oxide synthase (eNOS) and reduced nitric oxide (NO). In low-income settings, the relative cost and complexity of standard preventative therapies for SCA complications may limit their widespread implementation. Alternative and complementary, simple, safe and cost-effective interventions are required.
Objectives: V-FIT is designed to evaluate as primary endpoints:
(1) Effects of twice-daily home consumption of a micronutrient fortified ready-to-use supplementary food (RUSF) on growth and body composition.
(2) Impact of hypothesised vascular support components: arginine, citrulline delivered within an RUSF (RUSFv) and daily chloroquine, on plasma arginine and NO-dependent endothelial function assessed by flow-mediated dilatation (FMD) in response to hyperemia (FMD_{max}).
Methods: V-FIT is a double-blind, random-order cross-over trial (ISRCTN74331412/ NCT01718054). Eligiblity criteria include: HbSS children enrolled in the MSC, not receiving HU, aged 8-11.9 years at enrolment and living in Dar-es-Salaam. The study design is shown in Figure 1. RUSF was delivered via fortnightly home visits. Venepuncture, full blood picture and clinical chemistry panel were conducted at clinic visits. Plasma samples were archived (-80°C) within 1-2 hours of blood collection for amino acid analysis (Biochrom AAA 30, UK). Body composition was measured using a Tanita BC418 segmental bio-impedance analyser. FMD of the brachial artery was assessed using ultrasound (Ultrasonix SonixTouch, 12Mz probe) using a method established in children [2].
Results: 119 out of targeted 120 children were enrolled during August-October 2012. 115 children attended all clinic visits with analysable FMD recordings and complete anthropometric data collected (Figure 2). The last child exited the study 26th February 2014. Compliance with the RUSF and chloroquine interventions is estimated at 80% (analyses ongoing). Baseline anthropometry, body composition and FMD_{max} are shown in Table 1. Baseline FMD results have been presented in detail elsewhere [Cox *et al*. ASH, New Orleans, USA, December 2013].
Discussion: We have successfully completed a complex trial with the gold standard method of FMD assessing NO-mediated endothelial function as an end point. Compliance with the

interventions and clinic visits was very high. Mean FMD_{max} was slightly lower than that observed in non-SCA British children of similar age (8.1% [SD3.4]) [2], but higher than reported in 21 older French children with SCA (5.6 +/- 0.2) [3] which might reflect deterioration of endothelial function with increasing age. V-FIT participants had poor nutritional status and low body fat at baseline.

3. Title: Prevalence, correlates and prognostic implications of anemia and iron deficiency in Tanzanian patients with heart failure: A report from the TaHeF study

Author(s): Makubi A[1], Hage C[2], Lwakatare J[1,] Kisenge P[3],Mmbando B[4], Rydé L[2], Lund L[5], Makani J [1]

Institutions:
[1]MuhimbiliUniversityof Health and AlliedSciences,[a]Department of Hematology and [b]Internal Medicine
[2]Department of Medicine, Karolinska Institutet, Stockholm, Sweden
[3]MuhimbiliNational Hospital, Dar es Salaam,Tanzania
[4] National Institute for Medical Research (NIMR), Tanga Medical Research Centre.

Background: Despite advances in management of heart failure, the quality of life and other outcomes remain suboptimal especially in a setting of anemia and iron deficiency. The characterization of anemia and iron deficiency in heart failure also seems to be limited in Sub-Saharan Africa
Objective: We examined the prevalence, correlates and prognostic implications of anemia and iron deficiency in Tanzanian patients with heart failure.
Methods: Cross-sectional and longitudinal study, *Setting*: Cardiovascular Center of the Muhimbili National Hospital in Dar es Salaam, Tanzania. *Participants*: Patients ≥18 years of age with HF (defined by the Framingham criteria) whose hemoglobin measurements were available.*Main outcome measure*: Severe outcomes (death and hospitalization)
Results: A total of 401 patients were available for analysis. The prevalence of anemia in patients with heart failure was 57% while that of iron deficiency (ID) was 48%. Among patients with anemia, iron deficiency anemia (IDA) accounted for 60% of the cases. The risk of developing anemia in heart failure increased by four fold among patients with atrial fibrillation and by approximately twofold among patients who lived is Dare es Salaam. Also anemia was independently associated with renal dysfunction, odds ratio 0.98 (95% confidence interval 0.97 to 0.99); low total cholesterol 0.77(0.61-0.96) and low LV ejection fraction 0.04(0.01-0.32). There was significantly higher rate of severe outcomes associated with IDA (adjusted HR: 2.67; 95% CI: 1.39- 5.07) as compared to no anemia or ID alone (both $P<0.003$) and this relationship appeared to be linear.
Conclusion: There was a high prevalence of anemia and iron deficiency among adults with heart failure. Identification of risk factors for anemia should be encourage in heart failure settings. Iron deficiency appears to have marked prognostic effect on severe outcomes independent of the anemia.

4. Title: Knowledge and preference on mode of delivery among antenatal attendees at Muhimbili National Hospital

Author(s): Kimario J and Siriel M

Institution: Department of Obstetrics& Gynaecology, MuhimbiliUniversity of Health and Allied Sciences

Background: Women's preference on modes of delivery varies from one area to another. Each mode of delivery has its benefit and risk to both mother and the baby and women have to be aware of them before choosing the mode of delivery. Preference on modes of delivery can give a clue on how women in Tanzania perceive modes of delivery**.**
Objective: To assess the knowledge and preferencesof deliverymodes among antenatal attendees at Muhimbili National Hospital.
Methods: A cross sectional study was conducted at Muhimbili National Hospital antenatal clinic. An interviewer administered questionnaire was used. Data analysis was done using SPSS database version 17.
Results: A total of 654 women were interviewed. The mean age was 28.7(sd 4.9) and over 60% were multiparous. The overall level of knowledge on modes of delivery was high in 26.9% of the respondents**.** Preference for vaginal delivery was 89.8% and for caesarean delivery was 10.2%. Two thirds of the respondents who had indications for caesarean delivery had preference on vaginal delivery.
High level of knowledge on modes of delivery was associated with having secondary school education or more (OR 2.49, CI 1.52-4.08) .Preference on vaginal delivery was associated with parity (OR 3.42 CI 1.67-7.04), and history of previous vaginal delivery (OR 3.82 CI 1.94-7.49)
Conclusion: Level of knowledge on benefits and risks of modes of delivery was low among majority of the respondents due to lack of enough discussion on modes of delivery during antenatal visits. Health care providers need to spend more time on counseling with pregnant women on their indicated mode of delivery during antenatal visits.

5. Title: Effect of coexistence of sickle and fetal hemoglobin on malaria in Tanzania

Author(s): Mmbando B[1,2*], Mgaya J[1],Nkya S[1], Soka D[1], Rwezaula S[3], E Meda[3], Evarist Msaki[1], E Kaaya[1], Cox S[1,4] , Jeffries N[5], Geller N[5], Robert Snow[6], Kwiatkowski D[6]and Makani J[1,6]

Institutions:
[1]Muhimbili University of Health and Allied Sciences
[2]National Institute for Medical Research, Tanzania
[3]Muhimbili National Hospital, Dar-es-Salaam, Tanzania
[4]LSHTM, UK
[5] NHLBI, NIH, USA
[6]University of Oxford

Background: Tanzania faces the dual burden of malaria and sickle cell disease (SCD). Although success has been achieved in reducing burden of disease, malaria continues to pose a significant public health threat. In addition, Tanzania has one of the highest annual births (8000-11000) of

individuals with SCD in the world and the burden is projected to increase. Sickle haemoglobin (HbS) and foetal hemoglobin (HbF) have been independently associated with malaria protection. However, the association of their co-existence with malaria is unknown.
Objective: To determine the association between HbF and sickle status on malaria infection among patients attended at Muhimbili sickle cell in Dar-es-Salaam, Tanzania.
Methods: The study was conducted between March 2004 and December 2013 at Muhimbili National hospital. The sickle status: AA, AS and SS, was determined using hemoglobin electrophoresis and High Performance Liquid Chromatography (HPLC). The levels of HbF were determined by HPLC. Malaria was diagnosed using rapid diagnostic test and/or blood slide (BS). Generalized estimating equations were used to compare levels of HbF and risk of malaria infection.
Results: 2,415 individuals [AA 172(7.12%), AS 189(7.83%) and SS 2054(85.05%)] were screened for malaria infection. 12,900 visits were recorded with overall malaria prevalence of 1.2%. There was a significant difference in malaria prevalence in the three groups; AA 14.9%, AS 1.9% and SS 1.0% ($\chi^2_{(2)}$ = 331; P<0.001). The mean of HbF levels in individuals with malaria was lower at 4.7% compared 3.6% in the individuals without malaria (z=3.87; p=0.001). Adjusting for the effect of age and gender, mean square root (sqrt) ofHbF levels of AS individuals were significantly higher by 0.698 (95%CI: 0.133-1.263, P=0.015) in malaria infected compared to un-infected, while in AA, the levels were significantly lower in the malaria group by 0.393 (95%CI: 0.172-0.613; p<0.001). With increase in sqrt(HbF) by one, risk of malaria increased by 4.84 fold (95%CI: 2.38-9.82, P<0.001) in AS and 2.05(95%CI: 1.11–3.78, P=0.021) in SS compared to AA.
Conclusion: Individuals with SS status were more protected against malaria compared to individuals with AS and AA status. In the absence of HbS, AA individuals with no malaria had a higher level of HbF, confirming protective effect of HbF. However, in the presence of both HbF and HbS, there was a trend of loss of protection against malaria, with an increase in HbF levels being associated with higher risk of malaria in AS and SS. To our knowledge, this is the first epidemiological study of this magnitude that reports an effect of co-existence of HbF and HbS on malaria.

6. Title: Contemporary etiology, clinical characteristics and prognosis of adults with heart failure observed in a tertiary hospital in Tanzania.The prospective Tanzania Heart failure (TaHeF) study

Author(s): Makubi A[1a], Hage C[2], Lwakatare J [1b], Kisenge P[3], Makani J[1a], Rydén L[2] and Lund L[2]

Institutions:
[1]MuhimbiliUniversityof Health and AlliedSciences,
[a]Department of Hematology ,
[b]Department of Internal Medicine
[2]Department of Medicine, Karolinska Institute, Stockholm, Sweden
[3]MuhimbiliNational Hospital, Dar es Salaam,Tanzania

Objective: This study aimed to describe the contemporaryetiology, clinical characteristics and mortality and its predictors in heart failure (HF) in Tanzania.

Methods: *Design*: Prospective observational study.*Setting*: Cardiovascular Center of the Muhimbili National Hospital in Dar es Salaam, Tanzania. *Participants*: Patients ≥18 years of age with HF defined by the Framingham criteria *Main outcome measure*: All-cause mortality.
Results: Among 427 included patients, 217 (51%) were females and the mean (standard deviation) age was 55 (17) years. Heart failure etiologies included hypertension (45%), cardiomyopathy (28%), rheumatic heart disease (RHD) (12%) and ischemic heart disease (9%). Concurrent atrial fibrillation (AF), clinically significant anemia, diabetes, tuberculosis and HIV were found in 16%, 12%, 12%, 3%, and 2%, respectively, while warfarin was used in 3% of the patients.The mortality rate, 22.4 per 100 person-years over a median follow-up of 7 months, was independently associated with AF, hazard ratio 3.4 (95% confidence interval 1.6 to 7.0); in-patient 3.2 (1.5 to 6.8); anemia 2.3 (1.2 to 4.5); pulmonary hypertension 2.1 (1.1 to 4.2) creatinine clearance 0.98 (0.97 to 1.00) and lack of education 2.3 (1.3 to 4.2).
Conclusion: In HF in Tanzania, patients are younger than in the developed world, but etiologies are becoming more similar, with hypertension becoming more and RHD less important. Predictors of mortality possible to intervene against are anaemia, AF and lack of education.

WEDNESDAY, 14th – MAY, 2014, 11:40 – 13:15
THEME: NON COMMUNICABLE DISEASES 2

7. Title: Pediatric trauma causes, patterns and early intervention at the Muhimbili National Hospital emergency department in Dar es salaam, Tanzania.

Author(s): Mfinanga J [1,2] Sawe H[1,2], Mwafongo V [1,2], Reynolds T[1,2,3]

Institutions:
[1]Muhimbili University of Health and Allied Sciences, Dar es Salaam, Tanzania
[2]Department of Emergency Medicine, MuhimbiliNationalHospital, Dar es Salaam, Tanzania
[3]Department of Emergency Medicine and Global Health Sciences, University of California San Francisco, CA, USA

Introduction: Trauma remains the leading cause of death and disability in paediatric and adolescent population worldwide, though most of the childhood injury burden rests in low-income and middle-income countries. Many paediatric deaths attributable to trauma are preventable, and morbidity may be greatly reduced by early intervention, but efforts in sub-Saharan Africa are hampered by a lack of regional data to guide interventions.
Methods: This was a prospective descriptive cohort study of children under 18 years of age based in the Emergency Department (ED) at Muhimbili National Hospital (MNH) in Dar es Salaam. We used standardized trauma data collection embedded within the clinical chart to assess the mechanism and pattern of injury, and collected follow-up data on interventions performed in the first 24 hours after presentation.
Results: We enrolled 509 children from August to December 2012, 65.6% male and 34.4% were female. The majority (98.6%) sustained unintentional injuries. 31% of injured children were under the age of 5 years, 28.5% were between 5 and 9 years, and 21.0% were 10 to 14 years. Motor traffic accident (MTA) was the most common mechanism (40.9%) followed by falls (38.3%) and burns (14.5%). The majority of MTAs (54.3%) were a result of pedestrians struck by vehicles. Fractures and dislocations of upper and lower limbs were the most common injuries

(45%) followed by traumatic brain injuries (19%) and burns (14.5%). Only 10% of patients were discharged home from the EMD. Top mechanisms and patterns varied when sub stratified by age quartiles.
Conclusion: Childhood injury accounts for a substantial burden of disease at the MNH ED, with MTA being the most common mechanism overall, and with mechanisms and patterns varying by age.

8. Title: Neonatal deaths in rural southern Tanzania: care-seeking and causes of death

Author(s): Mrisho M[1]; Schellenberg D[1,2]; Manzi F[1]; Tanner M[3], Mshinda H[1]; Shirima K[1]; Msambichaka B[1]; Abdulla S[1]; Schellenberg J[1,2]

Institutions:
[1]Ifakara Health Research Institute, Tanzania
[2]Department of Infectious and Tropical Disease, London School of Hygiene & Tropical Medicine, London, UK
[3] Swiss Tropical Institute, Basel, Switzerland

Background: Neonatal deaths contribute to about a third of childhood mortality. Most of the causes for neonatal deaths are preventable with good antenatal and intrapartum care.
Objectives: The study determined the causes of death and care-seeking prior to death in neonates based on interviews with relatives using a Verbal Autopsy questionnaire.
Methodology: Neonatal deaths were identified through a large household survey in 2007 in five rural districts of Lindi and Mtwara regions of southern Tanzania. Caregivers of a sample of 300 children reported to have died in the neonatal period and between 2004 and 2007 were visited and a verbal autopsy questionnaire was administered.
Results: Of the 300 reported deaths, the Verbal Autopsy (VA) interview suggested that 11 were 28 days or older at death and 65 were stillbirths. The causes of the remaining confirmed neonatal deaths were prematurity (33%), birth asphyxia (22%) and infections (10%). The majority of deaths (69%). 147/214) occurred at home while the rest occurred at a health facility. Care-seeking in the final illness was more common in children who were born at a health facility (80% 59/74 vs. 24% 30/125) (p=0.001). The majority of births was at home and attended by unskilled assistants; there was no means to provide extra care for babies born premature.
Conclusion: Efforts to increase awareness of health facility delivery and the importance of early care-seeking for a premature or sick neonate are likely to improve neonatal health.

9. Title: A Burned Child's Pain during treatment as assessed by the Child, Caregiver and Nurse

Author(s): Lekule J.[1,2], Outwater, A[2]., Abeid R.[3]

Institutions: [1]School of Nursing, Kilimanjaro Christian Medical Center
[2]School of Nursing, Muhimbili University of Health and Allied Sciences (MUHAS)
[3]School of Physiotherapy, Kilimanjaro Christian Medical Center

Background: Burn injuries in children remain a significant public health concern in Tanzania, where pain is the most common symptom experienced. The scoring of pain in under-ten year old children with burn injuries is unknown in Tanzania.
Aim: To assess pain scoring in children with burn injuries admitted at KCMC hospital
Methods: A descriptive cross-sectional study was conducted at KCMC hospital, in May and June, 2013. Information about the child was obtained from the caretakers by using semi-structured questionnaire. Also all 47 caretakers of recruited children were requested to rate the child's pain. Interview by using unstructured questionnaire was conducted in 23 nurses caring for children with burn injuries and they were also requested to rate the child's pain on a VAS scale. Pain was measured by using VAS for children 6 years and above, nurses and caretakers and FLACC for children below 6 years old. Data was analyzed using SPSS version 20 software.
Results: Most children were under 4 years old and most of them 30(63.8%) were males. A vast majority 40(85.1%) were from rural areas.
Pain score in children ranged from 5 to 10. Most children 29(61.70%) were in worst pain during wound dressing. Severe pain was measured in 15(31.91%) of children and significant pain in 3(6.38%). More children with deep and full thickness burns experienced severe pain than those with superficial burn during changing of dressing. There was no significant difference between the mean pain score done by children and that done by caretaker. A significant difference in pain score was observed between children and nurses ($p<0.0018$). There was no standard and common method used by nurses to assess children's pain.
Conclusion: Pain scoring was comparable between children who had sustained burn injuries and parents/caregivers but was different between the children and the nurses.

10. Title: The undiagnosed patient: Psychiatric evaluation among children and adolescents within Juvenile Systems, Tanzania

Author(s): Mbelwa S [1, 2] and Malima K [1, 3]

Institutions:
[1]Muhimbili University of Health & Allied Sciences (MUHAS),
[2]The Aga Khan University, Dar es Salaam
[3]Tanzania Commission for Science & Technology (COSTECH)*
Background: The recently observed rising number of children and adolescents admitted in the Dar es Salaam juvenile homes in the last five years has raised concern to mental health and psychiatric health professional and related agencies. The establishment of brief psychiatric evaluation programmes in such systems may offer an invaluable opportunity for detection, diagnosis and early treatment that would be fundamental to avoid the severe sequel of mental illness in this population.
Aim: To determine the prevalence of psychiatric disorders among children and adolescents detained in the Dar es Salaam juvenile home and determine future needs of such services.
Methods: The study applied a mixed methodology design to estimate prevalence of mental disorders using a validated strength and difficulty questionnaire (SDQ), in-depth interviews and focus group discussions with care givers and used DSM IV TR for clinical confirmation.
Results: More than a third (34.3%, n= 37) of 108 children and adolescents had mental dysfunction at assessment associated with attention deficit hyperactivity disorder and aberrant

behaviour. History of unstable family situations such as parental death (58%, n=63) and divorce (44%) predominates in this group. Other conditions included drug and alcohol use disorders (14%; n= 8), sexual disorders, depression and brief psychotic reaction.
Conclusion: The undiagnosed psychiatric disorders among the detained children and adolescents may account for their aberrant behaviours thus provision of a fair judgment of their delinquency, psychiatric evaluation should be mandatory. The early detection of mental disorders offers better prognosis and rehabilitation for those affected and should be initiated as a mental health promotion initiative. The SDQ tool can effectively be used by the juvenile system as one of the preliminary assessment tool.

11. Title: The psychosocial impacts on families when caring relative(s) with mental illness

Author(s): Kidula M[1], Kajula L[1]& Yahya-Malima K [1, 2]

Institutions:
[1]Muhimbili University of Health & Allied Sciences (MUHAS)
[2]Tanzania Commission for Science & Technology (COSTECH)

Background: Tanzania, like many of low income countries is disproportionately affected by mental and neurological conditions, while the World Health estimates an increase of mental illness in the future. Despite this forecast and the integration of mental health policy in the national health policy, to date, less than 1% of the health budget addresses mental illness. Thus, the burden of caring for patients with mental illnesses falls to the family and significant others, ultimately leading to psychosocial impacts with impaired community integration of both patients and cares. The changing socio-economic context enforces a declined functional social support system and may aggravate the psychosocial impact on families.
Aim: To determine the psychosocial impacts and coping strategies of mental illness on the family members caring a person with psychiatric disorders in Temeke Municipality, Dar es Salaam.
Method: We deployed a descriptive purposive sampling qualitative study to enroll 14 participants to a focused group discussion and in-depth interviews. Ethical clearance was granted from MUHAS Ethical Committee.
Results: Seven main themes emerged from content analysis of this study: Financial constraints, disruption of family functioning, mismanagement of patient's symptom, lack of social support, conflicts, stigma and discrimination and inability to cope and adapt. The themes reveal psychosocial impacts incurred by families when caring relatives with mental illness.
Conclusion: Family caring for persons with mental illness may be the alternative for low income countries with overburdened health care systems like Tanzania, but conversely, it imposes multiple psychosocial challenges for the patient, family carers, community at large and mental health professionals. These impacts may have socio-economic consequences for the nation if ignored. The findings underscore the importance of investing in mental health promotion and preventive interventions and increase capacity to address psychosocial care during treatment for the patient and cares.

12. Title: Persistent mental illness stigma in Ilala municipal Dar es salaam, Tanzania

Author(s): Maboja C [I,II], Yahya-Malima K [I, II,III]

Institutes:
[I] Muhimbili University of Health & Allied Sciences (MUHAS),
[II] Department of Psychiatry Muhimbili National Hospital
[III] Tanzania Commission for Science & Technology (COSTECH)

Background: Efforts to integrate mental health care in all primary health care facilities in Tanzania began more than a decade ago. With stigma towards mentally ill persons still among the challenges that needs to overcome to promote allopathic medical care. Current understanding of stigma towards psychiatric patients may offer an opportunity for priori community mental health prevention interventions to curb the increasing prevalence mental illness as recently determined by the World Health Organisation.
Objective: To explore stigma towards psychiatric patients within the community within households in Ilala Municipality in Dar es Salaam.
Methods: Data triangulation methods were purposively used to sample consenting psychiatric patients (aged 30-50 years) on remission and caretakers. Data on stigma towards psychiatric patients was collected using in-depth interviews and focus group discussions. Content analysis was used to explore the status of stigma and comparison of feedback of participants was used to determine areas of agreement and divergence.
Results: The findings show an existence of stigma by the following themes: stigma and interpersonal interactions, stigma and social roles, stigma and structural discrimination, lastly stigma and public image towards the mentally ill. Stigma has many implications to the patients and their relatives, community perceptions on causes of mental illness seems to contribute to the stigmatizing attitude of the mentally ill thus reinforcing a viscous cycle for those affected and their caretakers in Ilala municipality.
Conclusion: We conclude that stigma related to mental illness still predominates and is not limited to patients alone but the community is also part of the stigmatizing world. The findings underscore the need for strengthened community wide advocacy campaigns to reduce stigma and improve uptake of allopathic care and promote mental health as an early measures against the rising incidence of mental illness in the country.

WEDNESDAY, 14th – MAY, 2014, 11:40 – 13:15
THEME: TRANSLATING HEALTH RESEARCH FINDINGS INTO POLICY AND PRACTICES

13. Title: Use of mobile health: Awareness of pregnancy danger signs among women in Bagamoyo district.

Author(s): Mhila G[1] and Kessy A[2]

Institutions:
[1]DTree International, Dar es Salaam.
[2]Department of Community Health, Muhimbili University of Health and Allied Sciences, P.O Box 65015, Dar es Salaam, Tanzania

Background: Maternal mortality ratio in Tanzania is estimated at 454 deaths per 100,000 live births. In some sub-Saharan Africa countries, 33% of maternal deaths are due to failure or delay in recognition of danger signs. Women traditionally learn about danger signs through counseling during antenatal visits. Despite over 96% of pregnant women in Tanzania making at least one antenatal visit, this counseling opportunity is often missed. Consequently, only (53%) are informed of signs of pregnancy complications. For this and other reasons, mobile phones (mHealth) technological innovations have been used in some projects to support health care services. D-Tree International, working with partners developed a phone-based tool on maternal health care to assists staff at reproductive health clinics deliver a set of maternal guidelines.
Study Aim: The purpose of this study was to assess the influence of mHealth on awareness of pregnancy danger signs and utilization of maternal health services
Methods: A cross-sectional comparative study was conducted involving two groups (164 each) of pregnant and postnatal women in Bagamoyo where mHealth has been used and Rufiji as a control.
Results: All women in the intervention group could mention at least one danger sign compared to 91% from the non-intervention group. The difference in the awareness of pregnancy danger signs between the two groups was statistically significant in the independent-samples t-test (M=3.74, SD=1.612) and (M=3.35, SD=1.882) for mHealth and control group; p= 0.045. Additionally, more women in the intervention group received counseling (97.0%) and utilized health facilities (92%) compared to 82% and 88% respectively in the non-intervention group.
Conclusion: Findings affirmed usefulness of mHealth to ensure completeness of maternal health services provided by health workers at the point of care.

14. **Title: Supporting Faculty with Best Practices in Online Education**

Author(s): Amon Y[1], Schadt R[2]

Institutions:
[1] Distance Learning Unit, Directorate of Continuing Education and Professional Development, Muhimbili University of Health and Allied Sciences
[2]Office of Teaching, Learning and Technology, Boston University School of Public Health

Background: The Directorate of Continuing Education and Professional Development at Muhimbili University has established a Distance Learning Unit (DLU) collaborating with the School of Public Health and Social Sciences to establish postgraduate online programs. MUHAS introduced Moodle as a Learning Management System (LMS) in 2013. Moodle is an e-learning platform, providing resources and facilitating interaction online.
Aim: In preparation for online postgraduate programs by 2015, MUHAS faculty members are being trained to use online tools, produce engaging materials and employ teaching techniques using Moodle. This abstract introduces principles of best practice, indicates SPHSS faculty

members' intended activities and materials developed to address their teaching goals using best practices and considers factors affecting development of materials and activities in Moodle.
Methods: A session on translating best practices into online activities was conducted by facilitators from Boston University and Dartmouth along with DLU staff. A framework of best practice[1] was introduced and pedagogical activities aligned with this framework were devised by faculty. In subsequent week-long, online trainings held by the DLU these best practices were reinforced and applied.
Results: Thirty SPHSS faculty participated in the introductory session.Twenty nine faculty participated in online trainings in February/March2014. Examples of faculty work will be demonstrated and their feedback discussed.
Conclusion: Many challenges face institutions which are implementing technology based initiatives. In addition to technical limitations of power and bandwidth, web-based technology brings challenges of training, increased demands on faculty time and a varying degree of student resistance to new means of teaching and learning. The training and support programs offered by the DLU and with facilitation from Boston University and Dartmouth reflect the Sloan-C Consortium Quality Framework in that institutional stakeholders show support for participation in online education, processes ensure faculty participation and support in online education and effective practices are identified and shared[2]

15. Title: Using Cases to Teach Public Health at Muhimbili University of Health and Allied Sciences

Author(s): Wolff J[1], Ngowi V[2], Rongo L[2]and Kishashu Y[2]

Institutions:
[1]Boston University School of Public Health
[2]Department of Environmental and Occupational Health, Muhimbili University of Health and Allied Sciences

Background: Incorporating a student-centered method of teaching in a teacher-centered, lecture environment is a major teaching and learning undertaking requiring among other things, cultural shift. As part of the partnership between MUHAS School of Public Health and Social Sciences (SPHSS), Boston University School of Public Health (BUSPH), and The Dartmouth Institute for Health Policy and Clinical Practice (IHP), the Partners developed and conducted a workshop to explore the student-centered method of teaching with cases.
Aim: The objectives of the workshop were to:
• Analyze advantages and limitations of case teaching in the MUHAS learning environment
• Provide guidelines for case development and teaching
• Prepare a case for a new course
• Practice teaching a case and receive feedback
Methods: During a two-day workshop SPHSS faculty developed and taught a brief case defined as "a story that illustrates an important public health concept and has an educational message". Working in small groups they also prepared guidelines for case developers and case teachers.

Results: This paper reports the workshop outputs including the rationale for using cases for teaching at MUHAS, the limitations and challenges that may arise when teachers introduce the case teaching method into their classroom, and key lessons learned from preparing and teaching with cases during the workshop.
Some highlights from the guidelines for case teachers were:

- Select an appropriate case (one aligned with goals and assessment)
- Be heartfelt and passionate about chosen cases
- Develop facilitator's notes and discussion questions (to share with colleagues)
- Determine time required for preparation of case
- Consider and develop take-home message(s)
- Prepare for different views/interpretations
- Make the case materials available to students
- Use simple language
- Ensure adequate space and visual aids

Conclusion: Teaching with cases provides one important way of transitioning from a teacher-centered learning environment to a student-centered, interactive and problem based learning environment.

16. Title: Evidence based health care practices and information seeking behaviour of health care professionals in Tanzania

Author(s): Lwoga E, Chimwaza G, Chande-Mallya R, Chataira B

Institutions:
Directorate of library Services, Muhimbili University of Health and Allied Sciences, Tanzania

Objective: This study sought to assess the information behaviour of health sciences faculty, physicians and other health professionals in EBHC process in selected universities and hospitals in Tanzania.
Methods: A questionnaire cross-sectional survey was used to collect data from faculty and physicians in three universities and four referral hospitals in Tanzania.
Results: A total of 561 respondents were selected in the sample institutions, with a rate of return of 71.1% (n=420). A total of 120 nurses also participated in the questionnaire survey. The findings from the survey showed that there is a low level of EBHC amongst the medical workers. The medical workers rated themselves as having no knowledge of Cochrane 37.3% (n=181), TRIP database 56% (n=272) and bandolier 62.3% (n=302). Only 10.6% (n=52) rated themselves as having expert knowledge of using PubMed. The major information needs of health professionals were related to continuing professional development, research work, EBHC, and to acquire latest health information about a disease. This shows that using information obtained to treat patients or to do local research is not high priority. This can be attributed to low understanding of the importance of EBHC. In order to fulfill their information needs, respondents preferred to seek information from internet, print books, colleagues/friends and personal experience. There were differences on the use of print and electronic information sources according to gender, profession, age and level of education.

Conclusion: The major challenges that health professionals faced were related to lack the skills in searching the Internet and when they do use the Internet, they lack knowledge of the best research based databases popular to the medical field.

17. Title: Performing arts as entertainment-education method for health communication: Reflections from Rift Valley fever project in Kongwa, Tanzania

Author(s): Hizza R[1], Mangi J[1], Kamazima S[1] and Moshiro C[2]
Institutions:
[1]Department of Behavioural Sciences, Muhimbili University of Health & Allied Sciences
[2]Department of Epidemiology and Biostatics, Muhimbili University of Health and Allied Sciences, P.O Box 65015, Dar es Salaam, Tanzania

Background: Rift valley fever (RVF) is a re-emerging vector-borne disease with rapid socio-economic impact. We conducted a baseline study to assess RVF outbreak preparedness as well as knowledge, attitudes and practices regarding RVF in Kongwa and Kilombero districts. In general, findings indicated that there is lack of knowledge in preparedness of the disease and its dynamics related to animals and humans. As entertainment-education method, performing arts has proven to be an effective method for health promotion and disease prevention for various health interventions targeting rural and urban populations.
Aim: In this article, we document how the approach has been used for conveying information, education and communication messages to promote outbreak preparedness for RVF while highlighting some of the key lessons learned from the intervention.
Methods: As communication tool, Performing Arts comprised indigenous songs and dances used to raise awareness, mobilize communities and promote practices favorable for timely response and preparedness for RVF outbreak in six villages.
Results: Findings suggest that using local theater troupes enhances a sense of ownership of intervention and also acts as a strategy for recognition of local talents and resources in improving health and disease control. A rapid assessment of the intervention reveals that entertainment-education efforts for RVF hold the potential for being integrated into routine social and cultural lives of the community members as a strategy to promote knowledge and reduce risks of infection for RVF during outbreaks. Furthermore, findings indicate that edutainment interventions require active participation of local power brokers from project inception stage in order to enlist public support and engagement.
Conclusion: RVF intervention highlights the need to focus on the use local performing groups to enhance continuity and sustainability of edutainment interventions.

18. Title: Research Productivity and Web Visibility of Dental Faculty at Muhimbili University of Health and Allied Sciences: A Scientometric Analysis

Author(s): Lwoga, E[1] and Sife A[2]

Institutions: [1]Directorate of Library Services, Muhimbili University of Health and Allied Sciences, Dar es Salaam, Tanzania
[2]Sokoine National Agricultural Library, Sokoine University of Agriculture, Morogoro, Tanzania

Background: Scientometric studies are important in evaluating the research Performance, and promotion and tenure of scholars. However, there are scarce studies on the research impact of dental scholars in Tanzania.
Aim: A scientometric study was conducted to analyze the research productivity and web visibility of dental faculty at the Muhimbili University of Health and Allied Sciences (MUHAS) in Tanzania from 1983 to 2013.
Methods: Data were extracted using the Publish or Perish software which uses Google Scholar to retrieve publications, citation counts and related metrics. For each faculty, the retrieved metrics were the total number of papers, total number of citations, average citations per paper, average papers per author, average citations per year, average citations per author, and four indices - the h-index, g-index, Hc-index, and the HI-norm.
Findings: The study findings indicate that a total of 364 publications were produced by dental faculty members, giving an average of 12 publications per year. The year 2006 had the most (14.6%) publications followed by 2009 (9.9%) while the years 1984 and 1986 had no publications at all. Majority (81.5%) of publications were multiple-authored with 37.6% of the publications having four or more authors and the degree of collaboration was very high (0.82). Overall, J.R. Masalu was the top ranking scholar followed by E.N. Kikwilu and E.N. Simon. All dental faculty members showed variation in their performance as no single scholar maintained the same rank in all nine metrics. Only eleven journal articles had 50 or more citation counts. Dental faculty in Tanzania had been publishing their research findings in a wide range of international scholarly journals with the Tanzania Dental Journal being the only Tanzanian journal with a substantial number of articles.
Conclusion: These findings suggest that many factors should be considered in combination when evaluating researchers' productivity and impact

WEDNESDAY, 14th – MAY, 2014, 11:40 – 13:15
THEME: **MELLENIUM DEVELOPMENT GOALS**

19. Title: "Snow-ball" was the best method for recruiting volunteers to a third HIV phase 2 vaccine trial in Dar es Salaam, Tanzania

Author(s): Munseri P, Bakari M, Pallangyo K, Ngatoluwa M, Chum S, Abdullah A, Massawa T, Niima D, Swaleh A, Kiwelu G, Mtomoni T, Salala E, Mhalu F, Sandstrom E, Lyamuya E

Institution: TaMoVac Project, Muhimbili University of Health and Allied Sciences, Tanzania

Background: In previous HIVIS-03 trial intradermal priming with DNA and boosting with MVA resulted in strong and broad immune responses. However, recruitment was a challenge,

resulting into a protracted recruitment period. In TaMoVac-II trial we are exploring if electroporation further enhances the immune responses following priming with 600mg of DNA. We describe recruitment experiences in this phase II trial at the Dar es Salaam site.
Methods: This double blind multi-site, trial recruited 82 of the intended 198 among a total of 198 HIV-uninfected volunteers aged 18-40 years from Dar es Salaam. The rest were recruited at Mbeya and Maputo sites. Volunteers in Dar es Salaam were from the Police and Prison forces, youths' clinic and the general population. Recruitment was initially through pre-screening workshops, as was done in previous trials, followed by "snowballing" whereby volunteers from previous and current trials brought in other volunteers. Descriptive analysis on recruitment was performed.
Results: We screened 199 volunteers; 20, 13, 28 and 138 from the Police, Prisons, youth and the general population respectively. Enrollees were 82, being 5, 4, 14, and 59 from the Police, Prisons and general population respectively. Their median (range) age was 22.5 (18-30) years. Thirty-nine (47%) of the enrolled were females. Of the 266 individuals who attended pre-screening workshops 244 agreed to be screened and 42 were eventually screened. Only 10/42 were recruited. The "snowball" method recruited 71 (87%) of the 82 participants, whereas only 9 were recruited from the Police and Prison forces. Recruitment was complete in 6 months, compared to 1.25 years in HIVIS-03.
Conclusion: In TaMoVac-II trial the most effective recruitment method was "snow-balling" with participants from the general population and youths. Conduct of pre-screening workshops among Police and Prison force officers was not as efficient as it was in the previous trials.

20. Title: Participation of the Prisons Service in HIV Vaccine Trials Co-Ordinated by the Muhimbili University of Health and Allied Sciences, Dar Es Salaam, Tanzania

Author(s): Mangara H**,** Mmari H,

Institution; Tanzania Police Force

Background: Infection with HIV and AIDS remain to be problems of Public Health Importance, despite the presence of a number of prevention strategies. Availability of an effective vaccine against HIV vaccine is therefore important. The Prisons Service has actively participated in the TaMoVac-I and II trials co-ordinated by MUHAS.
Objective: To describe participation of the Prisons service in TaMoVac-I and II trials.
Methods: Having received approvals from relevant authorities, consenting Prisons Officers from a number of stations were screened and eventually enrolled into the HIV vaccine trials. Prior to screening, the officers participated in a number of educational sessions on HIV and HIV vaccine trials. The TMV-I trial was conducted between 2010 and 2012, while the TMV-II trial was conducted between 2012 up to Nov 2014 The Prisons Medical team worked closely with the MUHAS team to facilitate volunteers' participation. A number of challenges have been experienced.
Results: A total of 68 officers were screened for the TMV-I trial of whom 31% were enrolled. In TMV-II trial, 12 officers were screened, and 33% were enrolled. They were from Segerea, Keko and Ukonga prisons. The relative proportions of volunteers from the Prisons service enrolled in the TMV-I and II trials were 21/60 (35%) and m/n 4/80(5%) respectively.

Challenges noted include rampant misconceptions that volunteers were being implanted with an HIV virus, as well as negative reactions towards volunteers participation from peers and significant others.
Conclusions: Despite earlier participation in the TMV-I trial, there was even fewer number of Prison Officers who participated in TMV-II. Additionally, misconceptions are still rampant. More aggressive educational sessions need to be targeted to members of the Prisons Service are necessary.

21. Title: Experiences and challenges in handling investigational products for an hiv vaccine clinical trial in dar es salaam, tanzania

Author(s): Kabadi L[1a], Munseri P [1b], Buma D [1a], Massawa T, Bakari M, [1b] Sandstrom E[2]

Institutions
[1a]Departments of Pharmacy and Internal Medicine [1b], Muhimbili National Hospital (MNH), Dar es Salaam, Tanzania.
[2]Swedish Institute for Communicable Disease Control (SMI), Solna, Sweden

Background: MUHAS has been conducting HIV vaccine clinical trials since 2006. These are HIVIS03, TaMoVac01 and TaMoVacII trials. Handling investigational products (IP), which were HIV-DNA, HIV-MVA and rgp140/GLA, to internationally accepted standards could pose a challenge in our settings.
Objectives: To describe the experiences gathered the challenges encountered in ensuring IP's are kept at required optimal temperatures.
Methods: All IP's were kept in the MUHAS Microbiology/Immunology laboratory and were transferred to the clinic located at MNH on vaccination day upon arrival of the volunteer. Tracking temperature charts and reported temperature excursion for HIVIS03, TaMoVac01 and TaMoVac02. Temperature was monitored by using a thermometer, charting every morning and evening with RGP 140 automatic flash thermometer was used to record temperature every after five minutes.
Results: All along the HIVIS03 trial the storage temperature ranges for the HIV-DNA, HIV-MVA vaccines were within the optimal ranges of-25 to-15 and -90 to-70 ^{0}Crespectively. A single occasion of a malfunctioning deep freezer necessitated an immediate shift of MVA to another back-up freezer. This was without any consequence to the IP temperature. The TaMoVac01 trial, storage temperatures for the HIV-DNA and HIV-MVA vaccines were within the required ranges of -25 to -15 and -90 to -70 ^{0}C respectively. Similarly, the storage temperatures for the rgp140 and GLA-AF were within the optimal ranges of+8and +2 respectively. The TaMoVac-II trial, storage temperatures for the HIV-DNA and HIV-MVA vaccines were within the required ranges of -25 to -15 and -90 to -70respectively. The storage temperatures for rgp140 and GLA-AF were within optimal ranges of +8 and +2respectively. In all the trials, the temperatures of IP's could be optimally maintained up to their administration to volunteers.
Conclusion: It was possible to maintain optimal temperatures for IP's throughout trials. Having appropriate storage facilities at the Clinical site could have simplified trial.

22. Title: Thirty years of HIV and AIDS Research at the Muhimbili University of Health and Allied Sciences: Successes and Challenges with special reference to the TANSWED HIV Programme

Author(s): Mhalu F

Institution: Department of Microbiology and Immunology, Muhimbili University of Health and Allied Sciences, Tanzania

Background: After report of the first 3 suspect AIDS cases from the Kageraregion, in 1983, the Muhimbili Medical Centre (MMC) recorded the first AIDS patient in October 1984. A month later, the microbiology laboratory at the MMC received sera from the Kagera hospital from patients with extensive genital ulceration.The first specific HIV antibody test (ELISA) in Tanzania was done at the Kagera hospital on 5th August 1985 in collaboration between MMC, WHO/CDC, and MoH. Since then MMC and later MUHAS and MNH took up intensive HIV research, in collaboration with other partners in search of results to guide the AIDS prevention and control efforts.
Objective: To determine research contribution to interventions for prevention, care and treatment leading to decline of HIV/AIDS.
Methods: A review of findings from the TANSWED HIV Programme at MUHAS which received financial support from the Swedish Government between 1986 and 2009 was done to determine how research contributed to interventions for prevention, care and treatment leading to decline of HIV/AIDS.
Results: Research findings over the past 30 years contributed to establishing quality laboratory testing for all levels of care; determined risk factors for HIV transmission; established STIs clinics at the MMC in 1984 and in the City of DSM in 1993 followed by STI services in other sites in the country; advised on blood transfusion HIV screening countrywide beginning 1989;demonstrated HIV counseling and testing influenced HIV risk reduction; studied risks and interventions of mother to child HIV transmission leading to the PMTCT programme; introduced HIV care and treatment using antiretroviral therapy (ART) since 2004 at the MNH with research funds; prepared for and conducted HIV vaccine trials.
Conclusion: HIV and AIDS research at MUHAS over the past 30 years has been exciting, challenging, rewarding and has contributed to the decline in HIV prevalence and incidence as well as a decrease in HIV associated illness and deaths.

23. Title: Participation of the Police Force in HIV Research in Collaboration with MUHAS

Author(s): Msuya S, Msenga C, Kawala T, Matola E, Katabalwa M, Abdallah S.

Institution: Institution: Tanzania Police Force

Background: HIV and AIDS continue to be major public health problems. The Police force in Dar es Salaam, under the Police Medical Service Unit, has been closely collaborating with Muhimbili University of Health and Allied Sciences (MUHAS) since early 1990's in various aspects of HIV research.

Objectives: To describe HIV research activities undertaken by the Police force in collaboration with MUHAS.
Methods: Epidemiological and Socio-behavioral studies have been conducted since mid 1990's. Subsequently the Police force collaborated with MUHAS in undertaking 2 HIV vaccine trials, is HIVS-03, TaMoVac-I and TaMoVac-II trials). Participations of Police Officers in all these activities ensured Voluntariness.
Results: From the epidemiological studies, the overall HIV prevalence has declined from 14% in 1996 to 5.7% in 2004. The HIVS-03 trial drew all the 60 volunteers from members of the Police Force. The proportions of Police Officers enrolled in the TaMoVac-I and II vaccine trials at the Dar es Salaam site were 15.6% (15/96) TaMaVac 01 and 26% (5/19) TaMaVac 0II. Confidentiality has been maximally observed in all the research activities, and consequently there has been no report of an untoward violent reaction following HIV results disclosure. Results from the various study findings have helped the Police force in designing informed strategies to curb the HIV epidemic, and the cooperation has led to capacity building in the force.
Conclusion: The research collaboration between the Police Force in Dar es Salaam and MUHAS has been mutually beneficial in the efforts to control the HIV epidemic. We recommend further strengthening of the collaboration

24. Title: A High Baseline Morbidity among Adult Volunteers For HIV Vaccine Trial in Dar Es Salaam, Tanzania

Author(s): Ngatoluwa M, Munseri P, Bakari M, Pallangyo K, Aboud S, Candida Moshiro C, Sandstrom E, Mhalu F

Institution: TaMoVac Project,Muhimbili University of Health and Allied Sciences, Tanzania

Background: Sub Saharan Africa has the largest burden of HIV related disease in the world and hence it is important that communities in this part of the world participates in efforts aimed at controlling HIV infections including clinical trials of candidate HIV vaccines. People wanting to participate in HIV vaccine trials need to be healthy and hence. We report baseline morbidity among 235 volunteers screed for participation in an EDCTP sponsored HIV vaccine trial (TaMoVac II) in Dar es salaam, Tanzania
Methods: The TaMoVac I trial recruited participants from the Police , Prisons forces and youth at the youth clinic in Dar Es salaam from March 2010 and June 2012,Tanzania. Volunteers underwent screening that included assessment of understanding followed by screening risky sexual behavior, medical history ,physical examination , ECG and laboratory investigations that included a complete blood count, kidney and liver function test, serology for syphilis, hepatitis B and HIV and urine dipstick and pregnancy testing to determine eligibility prior enrolment .
Results: During the period of March 2010 –June 2012, two hundred and thirty five (235) volunteers underwent baseline investigations to determine their suitability for participation in the

trial. 23/235 (14%) had abnormal laboratory tests. Of the 23 volunteers with abnormal laboratory tests, 13 (39%) were HBsAg positive. Other findings were as follows: anemia 8 (24%), 3(9%) positive HIV test, 2 (6%) elevated creatinine, low platelet and WBC count, 10/92 (10.9%) had abnormal ECG.
Conclusion: The prevalence of HBsAg , anemia and abnormal ECG in this cohort was high and provides a window of opportunity for intervention.

WEDNESDAY, 14th – MAY, 2014, 14:15 – 15:45
THEME: HEALTH SYSTEM RESEARCH

25. Title: Assessing Partner organizations' Investments in health: experience from Morogoro region, Tanzania

Author(s): Frumence G [1], Chebet J[2], Callaghan-Koru J[2], Mosha I[3], Chitama D[1], Winch P[2]

Institution:
[1] Department of Development Studies, School of Public Health and Social Sciences, Muhimbili University of Health and Allied Sciences, P.O Box 65454, Dar es Salaam, Tanzania
[2]Department of International Health, Johns Hopkins Bloomberg School of Public Health, 615 N. Wolfe Street, Baltimore, MD, USA
[3]Department of Behavioural Sciences, Muhimbili University of Health and Allied Sciences, P.O Box 65015, Dar es Salaam, Tanzania

Background: Health is one of the sectors receiving abundant foreign aid from multiple partner organizations to support the implementation of a broad range of interventions aiming at promoting population health in developing countries including Tanzania.
Objective: This paper aims at explaining why partners' investments in health are what they are and propose a framework for making better decisions about health investments.
Methods: We adopted a case study of a partner investment assessment utilizing qualitative data collected as part of an evaluation project on maternal and child health programs in Morogoro Region. Key informants from all partners working in the areas of maternal, newborn and child health as well as HIV were interviewed and thematic analysis was conducted to analyze data.
Results: We found that decisions made by most partners' organizations on where to invest were based on recipient and donor organizational models. Specifically the decisions were based on government directives such as, the need to provide health services to vulnerable populations; the need to contribute towards alleviation of disease burdens and donor organizations' interests including humanitarian concerns. Poor coordination of donor organizations and their investments may undermine the benefits to target populations and aid recipients both at national and district levels. This weakness poses a major challenge on partner investments in health leading to duplication of efforts and unchanging disease burdens.

Conclusion: We propose a framework that combines donor interests and needs with those of beneficiaries at national and district levels in order to avoid duplication of efforts in one area. An effective coordination mechanism should be put in place and forums established to discuss the interests and priorities of each involved partner so as to harmonize them and facilitate the implementation of donor funded investments in the recipient countries.

26. Title: Household and Health Facility Factors for Low Enrolment to CHF Scheme in Rombo District, Kilimanjaro

Author(s): Shayo J

Institution: Muhimbili University of Health and Allied Science

Background: Tanzania faces the challenge of finding a suitable mechanism for health care financing to ensure equitable access to health for all her citizens. The Community Health Fund (CHF) has been shown to be a well-functioning health care financial system. However, member level enrolment to this scheme in many districts has remained unexpectedly low despite multiple awareness campaigns.
Aim: To identify household heads' and health staffs' factors that contributes to low enrolment level to CHF scheme in Rombo District.
Methods: A cross-sectional study employing both qualitative and quantitative data collection was done. The study involved 144 household heads; 150 exit patients; 36 health staffs and 3 CHF district officials. Descriptive statistics were generated from quantitative data using SPSS version 20, and themes were generated from qualitative data using the ATLAS.ti 6 computer program. The generated themes were embedded into the quantitative results to enrich these findings.
Results: Health staffs' practices were highly accepted by exit patients. Health staff had positive opinion of CHF usefulness. However, there was lack of knowledge about CHF operations and use of private health facilities among household heads. This seemed to have a substantial negative effect on CHF enrolment levels. Lack of fixed time for registration of CHF members was identified to create a loophole for drop out and non-enrolment.
Conclusion: The District CHF Management should strengthen community sensitization and education about the CHF scheme. Revision of the rules that guide implementation of CHF in Rombo district is deemed necessary to remove the loopholes for non-enrolment and drop out of the scheme.

27. Title: Perceptions towards the role of exemption scheme in utilization of health services among most vulnerable children in Tanga

Author(s): Kanza A[1], Mangi J[2]

Institution:
[1]Ngamiani Health Center Tanga, Tanzania
[2]Department of Behavioral Sciences, Muhimbili University of Health and Allied Sciences, Dar es Salaam, Tanzania

Background: Health service utilization among most vulnerable children (MVC) is hindered by factors such as inability to pay for health costs, poor customer care, distance to health facility and drug stock out. Previous literature suggests that elimination of costs among the poor in the population can promote service utilization. Tanga municipal council initiated an exemption scheme targeting MVC. However, statistics show that service utilization rate remains low (<40). The study explored peoples' perceptions regarding the scheme and factors affecting utilization of health services among MVCs given existence of exemption scheme.
Methods: A qualitative study was conducted in Tanga using a purposive sampling technique. A total of 36 key informants were recruited for participation in in-depth interviews. Thematic analysis was done.
Results: The scheme covered only one MVC disregarding the number of MVCs per household. The scheme package of services was selective to cover less costly diseases only. Client experience of poor customer care from healthcare providers hindered scheme beneficiaries from fully utilizing health services. Less sensitization about the scheme in the health facilities left majority of staff unaware of the scheme. Frequent drugs stock outs were reported to discourage MVC families seeking care in hospitals. However, majority of the participants generally felt that the scheme was a useful intervention to address health service needs of MVCs.
Conclusion: There is a pressing need for stakeholders in the health system to practically resolve key challenges such as unreliable drugs and medical supplies. Moreover the importance of good customer care services should be emphasized to all health workers.

28. Title: Human Resources for Health Crisis Fallacy: A crisis of Numbers or Management systems?

Author(s): Kiwara A[1]; Sirili, N[1] and Semakafu A[1]

Institution:
[1]Department of Development Studies, Muhimbili University of Health and Allied Sciences, P.O Box 65015, Dar es Salaam, Tanzania

Background: For the last fifteen years Tanzania has reported an increasing crisis of human resources. The main thrust has been that graduate level human resources for health are inadequate. This thrust exists in tandem with an increasing number of graduate level training institutions. These institutions have increased to eight recently. What are the issues underlying this anomaly?
Objective: To analyze factors driving an anomaly whereby an increasing output of graduates goes hand in hand with a reported shortage in Tanzania
Methods: These included interviews with key informants; postgraduate students; analysis of graduate lists from training institutions and review of published reports. We studied the factors influencing registration after graduation and deployment of graduate level HRH focusing Medical Doctors (MDs), Doctor of Dental Surgery (DDS) and Bachelor of Pharmacy (B.Pharm) from five training institutions and Ministry of Health and Social Welfare (MoHSW).
Results: Between 2001 and 2010 approximately 2800 MDs, DDS, BPharm were trained. Registration with the MoHSW by the freshly graduated is voluntary, the management information system is inadequate and largely manual, there is lack of co-ordination between the trainers and employers, recruitment budget is limited, those who are finally deployed are not

guaranteed accommodation and sometimes they wait for extended periods before they receive first salary. From 2006 to 2010 a total of 482 (38%) of MDs that graduated and reported for internship were not recruited.
Conclusion: A closer look at the chain of events as narrated above indicates that the crisis in Tanzania as far as graduate human resources for health is concerned is not a crisis of numbers but rather a crisis of management. A better management system put in place should be able to minimize the crisis.

29. Title: Using Technology and Case-Based Approaches to Compare HIV in Tanzania and the US

Author(s): Semakafu A[1], Purvis L[2]

Institutions:
[1] Muhimbili University of Health and Allied Sciences (MUHAS), School of Public Health and Social Science;
[2] Hood Center for Children and Families, Infectious Disease and International Health, The Geisel School of Medicine at Dartmouth

Background: Since 2012, faculty exchanges between MUHAS and Dartmouth College have occurred with the development of HIV and gender modules exploring HIV in two contrasting contexts, Tanzania and the US. In 2012, women in Tanzania were found to have nearly a 50% higher rate of HIV than men (6.2% versus 3.8%). In contrast, in the US, men who have sex with men accounted for 63% of all new infections in 2010.2 Information and communications technology (ICT) was used to support the exchanges, the development of the modules, and to make virtual teaching possible.
Aim: This presentation aims at discussing the importance of using the ICT to bridge the geographical and cultural gap between two institutions to develop sustainable educational programs that improve students' understanding of gender and HIV in different cultures and contexts.
Methods: MUHAS and Dartmouth used ICT to plan, develop, and implement student-centered, active learning sessions. Two cases set in Tanzania and the US were developed and used to compare and contrast HIV gender-based issues. Further, using ICT technologies, MUHAS faculty were able to guest lecture in a US-based classroom setting.
Results: While gender vulnerability to HIV is a global health issue, the context (culture) contribute to the nature and extent of vulnerability. Using ICT allowed for a Tanzanian-US faculty exchange that illuminated risk factors in two vastly different settings.
Conclusion: The use of ICT has proven effective in enhancing the sustainability of teaching global health issues and HIV between MUHAS and Dartmouth College; having a joint programme broadened students' understanding of issues. The collaboration enhanced the capacity of MUHAS faculty to apply e-learning methods in their teaching activities and started initiatives to launch MUHAS's Distance Learning Masters Programme which is in the formative stages.

30. Title: Training and deployment of graduate level Human Resource for Health: A critical input for Vision 2025 Health sector goals.

Author(s): Sirili N[1], Kiwara A [1] and Simba D [2]

Institutions:
[1]Department Of Development Studies, Muhimbili University of Health and Allied Sciences (MUHAS), Tanzania
[2]Department of Community Health, Muhimbili University of Health and Allied Sciences (MUHAS), Tanzania

Background: Human resource for health (HRH) is an essential building block for an effective and efficient health system. In Tanzania this component is faced by many challenges which in synergy with others make the health system inefficient. In vision 2025 the country recognizes the importance of the health care sector in attaining quality livelihood for its citizens. It is more than half-way since launching of this vision.
Objective: To analyze the factors influencing training and deployment of graduate level HRH towards realization of the health care sector goals of the development vision 2025.
Methods: A case study employing; key Informants interviews, observations and review of published and grey literature was used. We studied the factors influencing training and deployment of graduate level HRH with a focus on three selected groups: Medical Doctors (MDs), Doctor of Dental Surgery (DDS) and Bachelor of Pharmacy (B.Pharm) from five health training institutions and Ministry of Health and Social Welfare (MoHSW) headquarters.
Results: All training institutions studied are challenged by severe resource scarcity. These include: increasing underfunding, shortage of Academic and support staffs, limited infrastructure for both teaching and accommodation. The deployment of the graduate level HRH is influenced by: lack of co-ordination between the trainers and employers, limited budget allocated for recruitment. From 2006 to 2010 a total of 482 (38%) of MDs that graduated and reported for internship were not recruited.
Conclusion: Quality livelihood as stated in vision 2025 will be a mirage if the challenges facing training and deployment of graduate level HRH will not be addressed timely. Strengthening of graduate level HRH management system is necessary in addressing the challenges facing training and deployment of the graduate level HRH.

WEDNESDAY, 14th – MAY, 2014, 14:15 – 15:45
PARALLEL SESSION: MANDELA
THEME: NON COMMUNICABLE DISEASES 3

31. Title: Dental practitioners' use of behavior management techniques during treatment of paediatric dental patients in Dar es Salaam

Author(s): Kawia H[1], Mbawalla H[1], Kahabuka F[1]

Institution:

[1]Department of Orthodontics Paedodontics & Community Dentistry, School of Dentistry, Muhimbili University of Health and Allied Sciences

Background: Behavior management techniques are a set of procedures that are employed by dental practitioners in attending a child dental patient so as to enable the child to ease fear, anxiety, cope with and be willing to undertake dental treatment procedures.
Aim: To determine dental practitioners' use of behavior management techniques and factors that influences their choice of the technique when treating child dental patients.
Methods: Cross sectional study among oral health care providers: Dental Therapists, Assistant Dental Officers and Dentists were carried out in Dar es Salaam. Structured questionnaire inquired on: socio-demographics, profile of the facility, awareness, application and factors that influenced the choice and use of behavior management techniques (BMT).
Data was analyzed using SPSS version 18, where frequency distribution and cross tabulations with chi-square statistics were conducted. The level of statistical significance was set at $p<0.05$.
Results: Seventy four dental practitioners participated in this study, 49 (66.2%) males and 75.7% aged 40 years or below. The common used BMT were: Tell Show Do (100%), positive reinforcement (91.9%) and voice control (89.2%)). Few practitioners reported to have used sedation (6.8%) and hand over mouth (5.4%). More than 90% of practitioners reported child's emotional state and past dental experience to influence their choice of technique.About 72% reported to be using at least six of the seven universal behavior management techniques. However, no statistical significant difference noted in use of these techniques by level of professional training and health facility, practitioner's working experience and whether a private or public dental clinic.
Conclusion: Majority of dental practitioners in Dar es Salaam use BMT during treatment of paediatric dental patients. Child's past dental experience influenced their choice of the technique used and that professional training, experience or levels of facility was no significant associated with use of the techniques.

32. Title: Factors Associated With Early Childhood Caries In 2-5 Year Olds Attending Dental Treatment At Muhimbili University Dental Clinic.

Author(s): Mselle C.

Institution:
Department of Pediatric Dentistry, Muhimbili National Hospital, Tanzania.

Background: Dental caries in children aged below 5 years is termed as early childhood caries (ECC). Epidemiological data of 2008/2009 reported nearly 50% of preschool children in Dar es Salaam whereas 80% of children who sought dental care at the School of Dentistry, MUHAS January–June 2012 had ECC. This is a public health problem that needs to be addressed.
Aim: To investigate factors associated with ECC.
Methods: A Cross sectional study conducted among 2- 5 year olds who attended treatment at School of Dentistry, MUHAS from September 2012-March 2013. 182 children and their parents were recruited. WHO criteria (1997) and Silness- Löe Oral Hygiene Index (1964) were used for caries and oral hygiene status respectively. A questionnaire inquiring socio-demographic characteristics of parents and children, child oral hygiene practices, toothpaste uses, feeding practices and snacks frequencies was used

Results: Girls were 51% of the studied children. The mean age and dmft were 3.78 and 6.79 respectively. At the level of bivariate analysis , older children (4-5 years); children reared by single mothers and children with poor oral hygiene had statistically significantly higher dmft than their counterpart (□2 = 6.71, p = 0.01; □2 = 3.99, p = 0.05; □2= 3.85, p = 0.05). In logistic regression model children aged 4-5 years had higher Odds of having higher overall dmft than those aged 2-3 years [OR=2.77 (1.18-6.45), p=0.02], while children with poor oral hygiene had higher Odds of having higher dmft for anterior teeth than their counterparts [OR=2.51 (1.20 5.28),p=0.01]. "Infants feeding practices"; "assistance in tooth brushing", "frequency of tooth brushing" and "use of tooth paste" had no significant association of having high/low caries experience.
Conclusion: Poor oral hygiene, Child's old age, and child being raised by a single mother were associated with higher caries experience.

33. Title: Prevalence of Dental Caries and Associated Risk among Adults In Ilala District, Dar-Es-Salaam, Tanzania.

Author(s): Mhako C [1], Carneiro L[2]

Institutions:
[1]Namtumbo District Hospital, Ruvuma,
[2]Muhimbili University of Health and Allied Sciences, Dar es Salaam.

Background: Planning oral health and dental treatment within a public health system requires information on the prevalence and its distribution.
Aim: To determine the prevalence and pattern of dental caries and associated risk among adults in Ilala district, Dar-es-Salaam.
Methodology: A hospital based cross-sectional study involving all public hospitals within Ilala district, Dar es Salaam. From each hospital 82 patients aged 18 years and above were randomly chosen to participate in the study. Self-administered questionnaires assessed demographic details and risk factors associated with the occurrence of dental caries. Patients who responded to more than three questions positively were considered to be at risk of developing dental caries while those who responded to less than three questions were considered to be at low risk. Clinical examination assessed prevalence and pattern of dental caries in accordance with the WHO Basic Oral Health Surveys, (1997). Data was analyzed using SPSS and Chi square test determined the statistical significance at a level of $p<0.05$.
Results: Of the 232 participants the overall prevalence of dental caries was 87.1% with majority in age group 45-68 years (n=41; 91.1%) and females (n=124; 90.5%). Proportionately the lower molars were the most affected teeth (49.6%) with occlusal surface (54.7%) being mostly affected. Majority of participants consumed tea with sugar (96.6%), sugary juices (93.5%), carbonated drinks (92.2%), and sugary snacks (74.6%) in comparison to alcohol (25%) and use of tobacco (3%) with 25% of participants being at risk of developing dental caries.
Conclusion: The prevalence of dental caries among adult patients attending the dental clinics in Ilala district, Dar es Salaam is high with occlusal surfaces and molars being the most affected tooth type.

34. Title: Treatment time, outcome, and anchorage loss comparisons of self-ligating and conventional brackets

Author(s): Machibya F[1], Baob X [2], Zhaoc L [3], Hud M[4]

Institutions:
[1]Muhimbili University of Health and Allied Sciences (MUHAS), Tanzania.
[2]Jilin University College of Dentistry, Changchun, China.
[3]Baihe Stomatological Hospital, Changchun, Jilin Province, China.
[4] Orthodontic Department, Jilin University College of Dentistry, Changchun, China.

Background: Self-ligating brackets (SLBs) are reported to have several advantages over conventional ligating brackets (CBs). However; some of the supposed advantages are not yet clearly demonstrated by clinical studies.
Aim: To compare the treatment time, outcome, and anchorage loss among orthodontic patients treated by Self-ligating brackets (SLBs) SmartClip and conventional brackets (CBs) Victory series brackets.
Methods: A retrospective cohort study comparing 34 patients SLB group treated by SmartClip (3M Unitek, Monrovia,Calif, USA) brackets to 35 patients CB group treated by conventional pre-adjusted brackets Victory series (3M Unitek, Monrovia, Calif, USA) ligated by stainless steel wire ligatures. Pre-treatmen (T1) and post-treatment (T2) lateral cephalograms were traced and analyzed by Pancherz sagittal-occlusion analysis to obtain skeletal and dental changes in the maxilla and the mandible. The dental cast models were assessed by the PAR Index for the treatment outcomes.
Results: The mean treatment time for SLBs (19.19 months) was not statistically significant different from 21.25 months of CBs; but the treatment time and pre-treatment PAR scores were strongly correlated. There was no difference in anchorage loss between SLB and CB groups. There were significant dental and skeletal changes among adolescent orthodontic patients regardless of the bracket used. The lingual inclination of mandibular incisors in CBs was 3.62° more than SLBs group ($P < 0.01$).
Conclusion: The treatment time and anchorage loss are not influenced by the type of bracket used. There are significant dental and skeletal changes among adolescent orthodontic patients regardless of the bracket used. There is significant greater lingual inclination of mandibular incisors in CBs group than SLBs group.

35. Title; Satisfaction with treatment among patients who underwent tooth extraction under local anesthesia at the Oral and Maxillofacial Surgery Department, School of Dentistry

Author(s): Simon E

Institution:
Department of Oral and Maxillofacial Surgery, MuhimbiliUniversity of Health and Allied Sciences

Background: In Tanzania, tooth extraction is the most common dental treatment procedure. Lack of alternative methods due to lack of personnel, equipment and materials and community's

ignorance are the main factors. Recently patients' satisfaction has become an increasingly important indicator of quality of dental care.
Objective*:* To determine satisfaction with dental treatment among patients who underwent tooth extraction under local anesthesia at the Oral and Maxillofacial Surgery Department, School of Dentistry.
Methods*:* A cross–sectional descriptive study including randomly selected patients who underwent tooth extraction under local anesthesia from September 2011 to August 2012. Patients were interviewed immediately after treatment. They reported their satisfaction on a 5 – point modified Likert scale focusing on: technical quality of care, interpersonal aspects, waiting time, environment of the treatment areas and pain during tooth extraction.
Results*:* A total of 765 patients participated. Out of these 242 (31.6%) were males. The age range was 14 to 85 years with mean age of 37.6 years. The age group 20-29 years had the highest number of patients; 240 (31.4%). Over 90% of the patients did not experience any pain during tooth extraction and were very satisfied with treatment offered. About 25% were satisfied with treatment but were not satisfied with the waiting time. Only 8.5% of the patients showed a low level of satisfaction. The main reason for dissatisfaction was experiencing pain during tooth extraction and the need of a repeat injection.
Conclusion*:* Successful administration of local anesthesia led to high level of satisfaction by majority of patients undergoing tooth extraction. There is a great need to take measures of cutting down the waiting time for patients.

36. Title: Intracranial cystic tumors with mural nodule: Conventional, Diffusion Tensor, perfusion MR Imaging findings.

Author(s): Jacob M[1], Lee S[2]

Institutions:
[1]Department of Radiology Muhimbili University of Health and Allied Sciences, Tanzania
[2]Yonsei University College of Medicine South Korea

Background: Conventional MR Imaging provides anatomic information, complemented by physiological information that is provided by advanced MR Imaging techniques. Diffusion tensor Imaging (DTI) Fractional Anisotropy(FA) reflect microstructural changes of tissue and perfusion imaging provide relative cerebral blood volume.
Objective: To evaluate the role of conventional, DTI and perfusion MR imaging in assessment of grade and type of histologically proven intraaxial cystic brain tumors with mural nodule.
Material and methods: A hospital based retrospective cross sectional study. Conducted at Severance Hospital, Radiology department, Korea, August - October 2012. Fifteen (15) consecutive patients, who underwent pre-operative conventional, DTI and perfusion MR imaging were included in the study.
Results: Nine (60%) and six (40%) were low grade and high grade tumors respectively. None of the low grade tumor had irregular cystic wall margin while three (50%) of the high grade tumor had, (P-value=0.044). Most 5(83.3%) of high grade tumors showed cystic wall contrast enhancement while none was found among the low grade group (P-value= 0.002).All high grade tumors showed high color values (Increased rCBV) compared to 3(33.3%) of low grade tumors

(P-value=0.020). All hemangioblastomas PNET and GBM showed high color values while all Pilocytic astrocytoma, diffuse astrocytomas, ependymommas and gangliogliomas showed low rCBV color values (P-values 0.028). There was no difference in FA values between tumor grades (P- value= 0.086).
Conclusion: Post contrast T1WI and perfusion MR imaging showed in this study to be very useful in differentiating high and low grade cystic tumors with mural nodule. FA values added no benefit to tumor differentiation. Hemangioblastoma is the only tumor with increased rCBV) among low grade tumors. Combined with post contrast T1WI, Perfusion MRI is useful in the preoperative diagnosis and differentiation of intracranial cystic tumors with a mural nodule.

WEDNESDAY, 14th – MAY, 2014, 14:15 – 15:45
PARALLEL SESSION: MKAPA 1
THEME: **BASIC RESEARCH IN HEALTH ISSUES**

37. Title: The Quality of Circulating Paracetamol in Our Local Market.

Author(s): Tibalinda P, Manyanga V, Kaale E, Risha P

Institution:
Pharm R & D Laboratory-School of Pharmacy-MUHAS Dar es salaam-Tanzania

Background: The content uniformity and dissolution are among the factors to be considered for the quality of medicines. The dissolution tells the amount of drug which can be released in vitro wheras content uniformity the variation of the drug amount in the formulated products.
Objective: A survey of the local market to assess the quality of paracetamol tablets
Methodology: A preliminary sampling was performed on the local market followed by risk based sampling approach. Dosage content uniformity and Dissolution test as described in the USP and BP were applied respectively. Twenty batches of locally produced paracetamol were subjected to Dissolution test, whereas seven batches were assessed for the content uniformity.
Results: Twelve batches (60%) passed the dissolution test. Among the batches with poor dissolution, seven (87.5%) were loosely packed in plastic containers of 1000‘s. None (0%) passed the test for content uniformity as according to the USP.
Conclusion: The poor content uniformity may have been attributed by poor formulation with poor mixing of excipients and active ingredients which might have been brought by poor distribution of particles. The poor dissolution may have been brought by lack of optimized formulations.

38. Title: Mapping of Medicines Storage Conditions in Warehouses and Retail outlets in Tanzania

Author(s): Nzinza M[1], Kaale E[1], Mugoyela V [2], Haule A [2]

Institutions:

[1]Pharm R&D Laboratory, School of Pharmacy Muhimbili University School of Health and Allied Sciences, Tanzania.
[2]Department of Medicinal Chemistry, School of Pharmacy Muhimbili University School of Health and Allied Sciences, Tanzania.

Background: Good quality manufactured medicines can lose potency and become substandardbecause of poor storage conditions during transportation, in warehouses, retail outlets and even in households during use. High temperatures above 30^{o}C and relative humidity (RH) of 75% are the most important factors, which can influence medicine degradation.
Objectives: To assess temperature and relative humidity storage conditions in Tanzania with respect to compliance to the Good Storage Practice of medicines
Methods: Site visit to mount digital temperature and humidity data loggers that automatically collected and recorded data twice per day i.e. midday at 1210hrs and midnight at 0010hrs over a period of one year. The sites for warehouses and pharmacies were picked from six zones of Tanzania two site facilities were selected for data collection. At the end the data were downloaded into a PC. Analysis was made by calculating the Mean Kinetic Temperature (MKT) for temperature and Arithmetic Mean for Relative Humidity data.
Results: A total of 8760 data for temperature and relative humidity were collected from August 2012 to July 2013. The overall Mean Kinetic Temperature was 25.63^{o}C and the arithmetic mean for relative humidity was 60.2%. The variation in the temperatures and relative humidity data for the country zones were observed.
Conclusion: The storage facilities in Tanzania do comply with the Good Storage Practice of medicines according to the International Committee on Harmonization with respect to temperature and relative humidity. The data suggest Tanzania fits well in climatic zone IVb 30 °C ± 2 °C/75% RH ± 5% RH and Zone II (25 ± 2^{o}C/60 ±5%) In principle this argument holds only if the facility is fitted with air-conditioning.

39. Title: Pharmacy refill adherence outperforms self-reported methods in predicting HIV therapy outcome in resource-limited settings

Author(s): Sangeda R[1], Mosha F[2], Aboud S[3], Lyamuya E[3], Wijngaerden E[4], Vandamme A[4]

Institutions:
[1]Department of Pharmaceutical Microbiology, Muhimbili University of Health and Allied sciences (MUHAS), Tanzania.
[2]Ministry of health and Social welfare, Tanzania,
[3]Department of Microbiology and Immunology, Muhimbili University of Health and Allied sciences (MUHAS), Tanzania
[4]Rega Institute for Medical Research, Katholieke Universiteit Leuven, Leuven, Belgium

Background: Widespread antiretroviral scale-up programs are being implemented in resource-limited settings (RLS). Optimal adherence to antiretroviral therapy is unarguably a critical factor to prevent HIV drug resistance (HIVDR) epidemics.
Objectives: To investigate which adherence measurement method has better performance to predict virological failure.

Method: A follow-up from a single-centre prospective cohort study enrolling HIV-infected adult patients attending an HIV/AIDS Care and Treatment Centre (CTC) that provides ART at Amana district Hospital in Dar es Salaam, Tanzania in 2010. A total of 220 patients were followed up for one year. Pharmacy refill, self-report (visual analog scale (VAS) and the Swiss HIV Cohort study-adherence questionnaire (SHCS-AQ)), pill count and appointment keeping were investigated.
Results: At the end of the study patients' adherence and viral load measurements at baseline and one year were available for 162 (73.6%). Of these patients 34% and 10.5% had detectable viral load and immunological failure, respectively at one year after recruitment. In univariate analysis, pharmacy refill adherence emerged as the best method predicting virological failure. Moreover, Cox regression analysis predicted that patients classified at pharmacy refill < 95% took longer to recover CD4 T cell count (50 or100 cells/µl higher) during the follow-up period (Wald test $p < 0.01$). In multivariate analysis, having pharmacy refill adherence < 95% , having a baseline CD4 T cell count < 200 cells/µl, being unable to recall the diagnosis date and a having higher weight were significant predictors of detectable viral load. Only pharmacy refill < 95% adherence and being unable to recall diagnosis were significant predictors of immunological failure.
Conclusions: Pharmacy refill has the potential to predict virological failure and to identify patients to consider for viral load monitoring and HIVDR testing in RLS. Combining adherence with the existing strategy of immunological monitoring improves the prediction of virological outcome.

40. Title: Development and validation of near infrared spectroscopy screening method for quality consistency assessment of virgin sunflower oil

Author(s): Luyangi F[1], Kaale E[1], Manyanga V[2], Mugoyela V [2],

Institutions:
[1]Pharm R&D Laboratory, School of Pharmacy Muhimbili University School of Health and Allied Sciences, Tanzania.
[2]Department of Medicinal Chemistry, School of Pharmacy Muhimbili University School of Health and Allied Sciences, Tanzania.

Background: Virgin Sunflower oil is edible oil obtained, without altering the nature of the oil, by mechanical procedures, e.g. expelling or pressing the seeds only. Sunflower oil is recognized internationally for its health benefits and frying performance. The current analytical methods for routine analysis and quality control of vegetable cooking oils are tedious, time consuming, environmental unfriendly and also cannot offer on the spot analysis of adulteration of products in the field during inspections. Near infrared spectroscopy offers some advantages in the analysis of vegetable oils such as rapidity, relative cost-effectiveness, and usually no need for sample preparation.
Objectives: To develop Near Infrared method for qualitative detection of counterfeiting of virgin sunflower cooking oil
Methods: Virgin Sunflower oil pressed from sunflower seeds grown Tanzania were used as reference standards that were used to develop spectra library for qualitative identification and validation of the method. Various market samples of virgin sunflower oil were purchased and

compared with spectra library. The results of spectral analysis of reference library and market samples were correlated using Mahalanobis distance method.
Results: Analysis involved 22 market samples collected from Dodoma, Dar es Salaam, Singida and Morogoro regions. When these samples were matched against calibration samples, 4 samples out of 22 (about 18.2%) were not matched by the reference model. These market samples had Mahalanobis distance values of between 4.2-6.7 which is greater than maximum permissible value of 3. Some of adulterants mentioned were Korie oil and pumpkin seeds oil.
Conclusion: Application of Principal Component Analysis together with Mahalanobis distance method was able to discriminate non matching Virgin Sunflower oils.

41. Title: Development and Validation of an HPTLC Analytical Method for Bisphenol Release from Infant Feeding Bottles.

Author(s): Muro L[1], Kaale E[1], Mugoyela V[2], Sempombe J[2]

Institutons:
[1]Pharm R&D Laboratory, School of Pharmacy, Muhimbili University School of Health and Allied Sciences, Tanzania.
[2]Department of Medicinal Chemistry, School of Pharmacy Muhimbili University School of Health and Allied Sciences, Tanzania.

Background: Bisphenol A (BPA) or 2, 2-(4, 4-dihydroxydiphenyl) propane is a plastic monomer and a plasticizer, used in the production of polycarbonate and epoxy resins. This is added to plastic to make it more pliable for different consumer products such as toys, infant-baby bottles, returnable bottles for soft drinks, beverage containers, dental sealants and other consumer products.However, BPA has been found to be a synthetic estrogen that mimics estrogen and causes damage to the reproductive, neurological and immune systems during critical stages of development, such as infancy and in the womb.
Objectives: To develop and validate an HPTLC analytical method for Bisphenol A release from infant feeding bottles.
Methodology: The analytical method was developed by optimizing the compositions and ratios of mobile phase. The BPA will be extracted from the infants feeding bottles using simulants, water and ethanol (10%).
Results: The best composition of mobile phase was found to be Toluene 20: Methanol 5: Ethyl Acetate 5. The BPA peak was observed at 230 nm with an Rf value of 0.52.The developed method was expected to be specific and selective to detect unwanted amounts of BPA leaking from infant feeding bottles.
Conclusion: HPTLC can be useful in resource limited countries, for analysis of the carcinogenic substance, BPA.

42. Title: Formulation Development Of Generic Omeprazole 20mg Enteric Coated Tablets

Author(s): Migoha C[1], Kaale E[2], Kagashe G[2]

Institutions:
[1]Tanzania Food and Drugs Authority, P.O. Box 77150, Dar es Salaam, Tanzania

[2] School of Pharmacy, Muhimbili University of Health and Allied Sciences, P.O. Box 65013, Dar es Salaam, Tanzania

Background: Omeprazole is a potent proton pump inhibitor with powerful inhibition of secretion of gastric juice. Oral site-specific drug delivery systems have recently attracted a great interest for the local treatment of bowel disease and for improving systemic absorption of drugs which are unstable in the stomach. However, microenvironment in the gastrointestinal tract and varying absorption mechanisms causes hindrance for the formulation and optimization of oral drug delivery.
Objective: To develop and optimize enteric coating process for Omeprazole tablets.
Methodology: Different batches of core tablets were sub coated, one set sub coated with opadry and another with a mixture of light magnesium oxide, magnesium stearate and absolute alcohol omeprazole magnesium. Seal coating was applied using opadry to achieve certain weight gain and to protect omeprazole from acidic coating polymers. A comparative dissolution test was performed.
Results: The variation of thickness and diameter were observed to be minimal with a weight gain of 3 – 4% of enteric polymer. The friability was less than 0.5% assay was between 100.1 to 105.9% Disintegration test show that in each tested batch the enteric coated layer remained intact in 0.1N HCl for 2 hours and when exposed to alkaline media of phosphate buffer pH 6.8 it dissolved within few minutes. Dissolution release was 98.8% to 102.4% within two hours when the product is exposed to phosphate buffer pH 6.8 after 2 hours. The similarity and dissimilarity factors were calculated and observed to be 54 to 61 and 4 to 5 respectively
Conclusion: A simple and good enteric coating process was developed and tested, with potential for transfer into local industries.

WEDNESDAY, 14th – MAY, 2014, 14:15 – 15:45
PARALLEL SESSION: KIKWETE
THEME: MELLENIUM DEVELOPMENT GOALS

43. Title: Swedish validation of the Impact of Miscarriage Scale (IMS) after miscarriage

Author(s): Jansson C, Stavreus-Evers A, Volgsten H

Institution:
Women's and Children's Health, Uppsala University, Akademiska University Hospital, SE-751 85 Uppsala, Sweden

Background: Approximately 15-20% of women report that they have experienced miscarriage, expulsion of a fetus before 22 weeks of gestation. Most women show grief after a miscarriage, but the understanding on how women experience miscarriage is still scarce. The Impact of Miscarriage Scale (IMS) was developed to study the experience after miscarriage.
Aim: The objectives were to validate the IMS for Swedish conditions and to measure women's and men's experience after miscarriage.

Methods: The study was performed at the gynecological ward at Uppsala University Hospital, Sweden. A total of 61 women were included in the study. In addition, 39 Swedish couples were included for comparison between women and men. All women and men filled in a questionnaire on general health, fertility and IMS. The IMS measures the experience of a lost child, personal significance, devastating event and isolation after miscarriage.
Results: Swedish women scored 30 % lower in all four factors, but with the same pattern, than women from USA, low score showing better personal experience. The data showed that men had significant lower score for personal significance, devastating event and isolation than women, while the experience of having lost a child was the same for men and women.
Conclusion: The difference between Sweden and USA might be due to factors related to culturaldifferences. It can also be noticed that 15 years has passed from the American study to the recent Swedish study. The data show that that the psychological wellbeing of the men is also reduced after their partners' miscarriage.

44. Title: Predictors of exclusive breastfeeding among women with children aged 6 to 12 months and the roles of elderly women in promoting the practice in Mkuranga District

Author(s): Katana D[1], Kessy A[2]

Institutions:
[1]Tanzania Food and Nutrition Center
[2] Muhimbili University of Health and Allied Sciences

Background: Exclusive breastfeeding (EBF) for the first six months of infants' life is a cost effective intervention in saving children's lives especially in developing countries. Despite all the advantages of EBF, in Tanzania many women still do not practice it as recommended and their breastfeeding decisions may be influenced by a variety of social, environmental, physical and personal factors.
Objective: To explore predictors of EBF among women with children aged 6 to 12 months and the roles of elderly women in promoting the practice in Mkuranga District, Coast Region.
Methodology: A across sectional study involving 300 mothers with children aged 6 to 12 months and 10 elderly women residing in selected villages of Mkuranga District. The mothers were selected through multistage cluster sampling while the elderly women were conveniently identified within the households where the postnatal mothers were living. Information from the mothers and the elderly women was collected using a structured interview schedule and a key informant guide respectively. Quantitative data was entered and analyzed using Epi Info version 3.5.4 computer software. Bivariate analysis and multiple logistic regressions were performed to identify statistically significant predictors of EBF. The in depth interview information was analyzed using content analysis approach.
Results: The highest proportion of the mothers (81.3%) initiated breastfeeding within one hour after birth. Knowledge on EBF for the first six months of life was relatively high (86%), even though only 7% of the mothers reported to have practiced EBF as recommended. Logistic regression revealed that mothers with knowledge on the duration of EBF (OR 5.56, p-value = 0.02) as well as applying the principle of emptying one breast first before shifting to the other (OR 18.34, p-value < 0.00) were significantly more likely to practice EBF. Despite the elderly women playing a major role of caring for both newborns and mothers after delivery, the study

findings further revealed that they had insufficient knowledge on EBF and often had a negative attitude towards this practice.
Conclusion: Mothers appeared to depend a lot on the support from elderly women during pregnancy up to 2 years post-delivery. Therefore, elderly women are key players in transmitting EBF knowledge even though they had insufficient knowledge on EBF. Strategies targeting on improving breastfeeding knowledge and skills among mothers as well as elderly women may help to improve EBF in Mkuranga District.

45. Title: "We have been working overnight without sleeping". Traditional Birth Attendants' practices and perceptions of postpartum care services in rural Tanzania.

Author(s): Mahiti G[1], Kiwara A[1], Mbekenga C[2], Hurtig A[3], Goicolea I[3]

Institutions:
[1]School of Public Health and Social Sciences, Muhimbili University of Health and Allied Sciences, Dar es Salaam, Tanzania
[2]School of Nursing, Muhimbili University of Health and Allied Sciences, Dar es Salaam, Tanzania
[3]Division of Epidemiology and Global Health, Faculty of Medicine, Umeå University, Umeå, Sweden

Background: The postpartum period is an important period for improving maternal and child health. In many low-income countries, formal postpartum coverage is much lower than that of skilled delivery and antenatal care. Despite many studies exploring Traditional Birth Attendants (TBAs) involvement during pregnancy and delivery, little is known on TBAs roles during postpartum.
Aim: The aim of this study was to explore TBAs practices and perceptions on skilled postpartum care in rural, Tanzania.
Methods: Qualitative in-depth interviews data were collected from eight informal and three formal TBAs. Additionally, five multiparous women who were clients of informal TBAs were interviewed to triangulate information obtained from TBAs. Data were transcribed verbatim and open code program used for the coding process. Qualitative content analysis was used to analyse data.
Results: Our study found that, TBAs conduct close postpartum follow-ups, performing some rituals such as caring closely, cooking food and massaging women that were appreciated by women. They treat complications locally when they arise. In addition they perceive that, utilization of hospital-based postpartum service among women is only important for the baby and when complications which they can't handle occur. TBAs report lacking formal postpartum care training and their main source of knowledge was their parents and in-laws. They are poorly linked to the health system.
Conclusions: TBAs practice rituals that could have been both positive and negative health implications, have negative perceptions to women use of formal postpartum care and have poor link to health system. The Ministry of Health and Social Welfare and other stakeholders should increase awareness on the importance of postpartum care. Integration of some beneficial rituals implemented by TBAs need to be considered. Improved collaboration between TBAs and formal health system would ensure continuity of care.

46. Title: Cytokines profile of women with or without pre-eclampsia in Dar es Salaam, Tanzania

Author(s): Mpinda C[1], Wangwe P[2], Mselle T[3]

Institutions:
[1]Department of Molecular Biology and Biotechnology University of Dar es Salaam
[2]Department of Obstetrics and Gynecology, Muhimbili University of Health and Allied Sciences
[3]Department of Biochemistry, Muhimbili University of Health and Allied Sciences

Background: Pre-eclampsia is one of the severe complications of pregnancy which leads to maternal mortality and morbidity. The etiology of preclampsia is not clearly understood, however, studies indicate that it is a multifactorial including abnormal cytokines profiles.
Aim: The goal of this study was to examine the cytokine profile among pregnant women, with or without pre-eclampsia
Method: The 134 women recruited were divided into four groups: pre eclamptic women (n=35), eclampsia women (n=10), normal pregnant (n=45) and non-pregnant (n=44). The BMI, and the amounts of IL-4, IL-10, TNF-α and IFN-γ in peripheral blood were determined by ELISA (Abcam plc, UK).
Results: The amounts of IFN-γ, TNF-α and IL-10 were significantly higher in women with pre-eclampsia and eclampsia compared to non-pregnant and women with normal pregnancy. However, the level of IL-4 was significantly higher in women with normal pregnancy compared to non-pregnant, pre-eclampsia and eclampsia.
Conclusion: These findings indicate increased production of IFN-γ, IL-10 and TNF-α in pre-eclampsia and eclampsia than in normal pregnancy. The dramatic decrease in IL-4 during pregnancy could serve as a predictor of pre-eclampsia.

47. Title: Knowledge, Attitude and Use of Modern Family Planning Methods Among HIV Infected Women In Songea Municipality.

Author(s): Mushi E and Charles K

Institution:
[1]Department of Obstetrics and Gynaecology, Muhimbili University of Health and Allied Sciences, Dar es Salaam, Tanzania

Background: There are several published studies addressing knowledge, attitude and use of Family Planning (FP) in Tanzania. However, studies addressing the use, attitude and knowledge of modern FP methods among Women Living with HIV/AIDS (WLWHA) are uncommon.
Aim: To assess knowledge attitude and use of modern FP methods among women (15-49 years) attending CTC in Songea Municipality.
Methodology: WLWHA attending CTC in Songea Regional Hospital who consented for the study were interviewed. A semi-structured questionnaire was used to obtain socio-demographic data and knowledge, attitude and use of modern FP. Data was analyzed using SPSS.
Results: Four hundred and eighteen women were interviewed. The mean age of respondents

was 36.08 ± 8.099(SD), and only 9.8% had no formal education. Seventy-seven percent had regular sexual partners; however disclosure to the partner was only 80.3%. Awareness and knowledge on FP methods was 99.3% and 72.5% respectively. Most known methods were male condom (99.3), pills (98.3) and injectables (97.8%). Respondents with positive attitude towards modern FP were 52%, whereas only 60% were current users. Male condom was used by 84.7%, but dual method by only 27.3%. Lack of a regular partner (36.7%), partner disapproval (28.4%) and perceived side effects (28.4) were barriers to utilization. Of the 112 respondents who became pregnant after knowing their HIV status, 54 (48.2%) had unintended pregnancies.
Conclusion: Awareness and knowledge on FP methods and condom use was high but not dual methods. Unmet need for effective FP methods was observed. To reduce the burden of HIV/AIDS and unintended pregnancies, effective methods should be provided to WLWHA.

48. Title: Prevalence and Pregnancy Outcome of Domestic Violence in Pregnancy among Antenatal Clinic Attendees in Songea

Author(s): Said A

Institution:
Department of Obstetrics and gynecology, Muhimbili University of Health and Allied Sciences

Background: Violence against pregnant women has recently been acknowledged as one of threats to women's health. Domestic violence (DV) is defined as physical, sexual, or psychological and or emotional violence, or threats of violence that are inflicted on a woman by a relative. All forms of violence in pregnancy have been shown to have a negative impact on pregnancy outcome.
Objective: To document the prevalence and pregnancy outcome of domestic violence inflicted on pregnant women in Peramiho Songea.
Methodology: This was an analytic cross sectional study done at Peramiho hospital antenatal clinic. Eligible pregnant women were selected using a systematic sampling and were interviewed using a standard structured questionnaire.
Results: A total of 1305 pregnant women were interviewed **.**The prevalence of DV before pregnancy was found to be 36.6% while it was 64.7% and 42.8% in the index and previous pregnancy respectively. Emotional abuse prevalence was 85.5%, while 51.3% and 58.8% were exposed to physical and sexual abuse respectively. The intimate partner was the most common perpetrator of violence. Abused women were more likely to be 40 years and above, have no education, peasants, have partners with no education and divorced or separated. Other risk factors were partners consumption of alcohol, cigarette and drugs and having unplanned pregnancy. Women abused during pregnancy were at risk of low birth weight and spontaneous abortion.
Conclusion: Domestic violence against women during pregnancy is high. Most abused women are verbally abused but physical and sexual abuses are also high. Violence during pregnancy is associated with adverse pregnancy outcome.

PARALLEL SESSION: MANDELA HALL
THEME: BASIC RESEARCH IN HEALTH ISSUES

49. Title: Risk Behaviors and Perceived Susceptibility to HIV Infection among MSM in Dar es Salaam, Tanzania

Author(s): Leshabari M[1]; Mmbaga E[2]; Moen K[3]; Mpembeni R[2]

Institutions:
[1]Department of Behavioral Sciences, School of Public Health and Social Sciences, Muhimbili University of Health and allied Sciences (MUHAS) Tanzania
[2]Department of Epidemiology and Biostatistics , School of Public Health and Social Sciences, Muhimbili University of Health and allied Sciences (MUHAS), Tanzania
[3]Department of Community Medicine, University of Oslo Norway

Background: Rates of HIV infection in this population subgroup are much higher than that of the general population in almost all African countries where some data is available. However, there are hardly any officially organized interventions targeting MSM possibly due to the assumption that planned intervention for the general population would also be accessed and used by this population sub-group.
Aim: To determine behaviors which increase risks to HIV infection were among MSM
Methodology: Respondent driven sampling was used to generate data from 753 MSM in Dar es Salaam, Tanzania. Behaviors which increased risks to HIV infection were collected through questioners. Each respondent was also asked to rank the extent he believed was susceptible to HIV infection and the results obtained were as follows:
Results: Many (55%) respondents had female sexual partners. Sex with multiple male and female partners was also fairly common. Almost 54% had two or more female partners three months before the interview and over 84% had two or more male partners during the same period. Protection against consequences of unprotected sex was more common with male (45.2%) than female (23%) sexual partners the last time they had sex. A few respondents (2%) participated in group sex with members per group varying from 2 to 7. Alcohol use was reported by 66% and 80% of them said they were drunk the last time they had sex. Nearly 20% had exposure to drugs (mainly marijuana)and a third of them were under the influence of drugs the last time they had sex. Despite the reported high risk behaviors 18.7% believed their chance of getting HIV infected was small
Conclusion: High risk behaviors that put MSM in Dar es Salaam at risk to HIV infection are fairly common, but many still believe that their chance of getting infected is small.

50. Title: The relevance of social behaviour methodologies for HIV Vaccine Immunogenicity Study (HIVIS-03), a Phase I/II HIV vaccine trial in Tanzania

Author(s): Tarimo E[1], Kulane A[2], Bakari M[3], Kohi T[1], Sandstrom E[4], Mhalu F[5]

Institutions:
[1]Department of NursingManagement, Muhimbili University of Health and Allied Sciences, Dar esSalaam, Tanzania

[2]Division of Global Health (IHCAR), Department of Public Health Sciences, Karolinska Institutet, Stockholm, Sweden
[3]Department of Internal Medicine Muhimbili University ofHealth and Allied Sciences, Dar es Salaam, Tanzania.
[4]Södersjukhuset Venhalsan, KarolinskaInstitutet, Stockholm, Sweden
[5]Department ofMicrobiology and Immunology, Muhimbili University of Health and Allied Sciences, Dar es Salaam, Tanzania

Background: As HIV continues to devastate low-income countries, efforts to search for an effective preventive HIV vaccine are crucial. Tanzania, in collaboration with international partners, is one of low-income countries involved in conducting Phase I and or II HIV vaccine trials. Along with immunological investigations, it was deemed important to explore knowledge and experiences of the participants before, during and after completion of a trial. We describe a series of key results from socio-behavioural studies in the HIV Vaccine Immunogenicity Study (HIVIS-03), a Phase I/II HIV vaccine trial.
Methods: Quantitative and qualitative studies were carried out among the participants and volunteers who were considered for participation or participated in the HIVIS-03 trial in Dar es Salaam, Tanzania.
Results: The quantitative results showed that 61% of potential participants would volunteer for the trial. Personal decision and expectation of obtaining protection against HIV infection were associated with the willingness to volunteer. The qualitative findings revealed impediments to participation in the trial as the negative influence by sexual partners, friends, family members, relatives or parents (significant others); and fear of vaccine side effects. Health care providers (Doctors/Surgeons/Nurses) who were not connected to the trial were reported to discourage the volunteers who took part in the trial. Despite the negative comments, volunteers in the trial managed to stay on until the end of the trial as a result of personal decisions and trial-related interventions. Furthermore, the experienced changes of social harm and sexual behaviour two years after the trial brought new insights to the trial implementers.
Conclusion: Individual's decision, opinions of significant others, and the capacity to deal with social harm influenced recruitment and retention in participating in an HIV vaccine trial. These issues are captured using socio-behavioural methodologies thus contributing to knowledge that would not otherwise be available and accessible to trial implementers.

51. Title: Emic perspectives on community-based HIV prevention work among MSM in Dar es Salaam

Author(s): Moen K[1]; Mmbaga E[2]; Mpembeni R[2]; and Leshabari M[2]

Institutions:
[1]Department of Community Medicine, University of Oslo Norway
[2]Department of Epidemiology and Biostatistics, School of Public Health and Social Sciences, Muhimbili University of Health and allied Sciences (MUHAS), Tanzania
[3]Department of Behavioral Sciences, School of Public Health and Social Sciences, Muhimbili University of Health and allied Sciences (MUHAS) Tanzania

Background: From a public health perspective, the high prevalence of HIV among men who have regular or occasional sex with other men in Dar es Salaam (22.2 per cent) calls for a strengthening of HIV prevention programming among such men.
Objectives: Significantly, a nascent grassroot groups are organizing against HIV is currently emerging among MSM themselves. The objective of this explorative study is to identify, describe and analyse these emerging community-based efforts.
Methodology: This is an explorative ethnographic study where data are produced mainly through participant observation and qualitative interviewing. The observational data are supplemented with dialogical interviews.
Results: Following Appadurai, this paper discusses the 'landscapes' of people, ideas, resources, technologies and media reporting that contribute to shape nascent community-based HIV prevention work in Dar es Salaam from the emic perspectives of the men and community-based groups that bring it into being. We map out prominent discourses on community-based organising against HIV in this socio-cultural context, describe ways in which work is carried out on the ground, and identify issues that are perceived to facilitate and hinder community-based HIV prevention.
Conclusions: Community-based organising among MSM in Tanzania is of considerable public health interest in part because it pertains to a population subgroup for which very little systematic HIV-preventative work has so far been available, and in part because it is work which posits those at potential risk of HIV as performers of – and not only as recipients and/or targets of – HIV prevention. Actors in the community-based response have profound insight into a host of crucial contextual issues for HIV prevention, but often lack familiarity with biomedical discourses on HIV and HIV prevention. We argue that there is a strong need for increased collaboration between community-based groups and the field of public health.

WEDNESDAY, 14th – MAY, 2014, 16:15 – 17:00
PARALLEL SESSION: KIKWETE HALL
THEME: MELLENIUM DEVELOPMENT GOALS

52. Title: Polymorphisms in pfcrt and pfmdr1: risk factors that affect treatment outcomes after artemether-lumefantrine and artesunate-amodiaquine for falciparum malaria

Author(s): Ngasala B, Nahla B, Stepniewska K, Dahal P, Nsanzabana C, Moriera C, Price R, Mårtensson A, Rosenthal P, Dorsey G, Sutherland C, Guérin P, Sibley C, Plowe C

Institution:
World Wide Antimalarial Resistance Network Research group

Background: The initial reduction in peripheral parasitemia following artemisinin-based combination therapy (ACT) for Plasmodium falciparum malaria appears to be driven predominantly by the potency of the artemisinin component, whereas the prevention of recrudescence depends on the efficacy of the longer-acting partner drug. Polymorphisms in pfcrt and pfmdr1 are associated with decreased sensitivity to amodiaquine and lumefantrine, respectively. However, the effects of these polymorphisms on therapeutic responses to

artesunate-amodiaquine (ASAQ) and artemether-lumefantrine (AL) have not been clearly defined.
Objectives: To assess the roles of pfcrt and pfmdr1 polymorphisms in ACT efficacy, individual patient data from 31 clinical trials were harmonized and pooled, using standardized methodology from the WorldWide Antimalarial Resistance Network (WWARN).
Methodology: Data from more than 7000 patients were analyzed to assess relationships between polymorphisms in pfcrt and pfmdr1 and outcomes after treatment with AL or ASAQ.
Results: Presence of pfmdr1 N86 and elevated pfmdr1 copy number were significant risk factors for recrudescent infections in patients treated with AL. AL and ASAQ exerted opposing selection on SNPs in pfcrt and pfmdr1 in recurring infections. Moreover, in patients treated with AL, parasites carrying pfmdr1 N86 or pfcrt K76 alleles reappeared one week earlier than parasites with pfmdr1 86Y or pfcrt 76T. Opposite results were observed after treatment with ASAQ; parasites with pfcrt 76T recurred earlier than those carrying pfcrt 76K.
Conclusion: The opposing selective pressures of AL and ASAQ may have implications for the selection of antimalarial drugs. Monitoring selection and responding to potential early signs of drug resistance such as those described here are critical tools for preserving ACT efficacy.

53. Title: Social - Economic Factors Affecting Malaria Preventive Initiatives in rural Communities Tanzania: A Case Study of Bagamoyo District in Tanzania

Author(s): Mashasi I

Institution:
Ifakara Health Institute, Plot 463, Kiko Avenue Mikocheni, Dar es Salaam, Tanzania

Background: Malaria has been identified as a threat of human health in Tanzania and in other African countries. Tanzania Demographic Survey Report of 2010 shows that about 93 per cent of the population in Tanzania is at risk of being infected with malaria. Several initiatives have been taking place trying to reduce malaria burden and yet there are multiple factors, which continue to slow down malaria prevention and control programs; factors related to environmental, political, and socio-economic determinants
Aim: The study attempted to look at socio-economic factors, which impede the success of malaria prevention programs/initiatives at the community and household level. The results might help stakeholders to set strategies, which will facilitate malaria reduction by focusing the family level.
Methods: This study used both qualitative and qualitative methods of data collection. A total of 100 participants were involved in which 10 in-depth interviews, 2 Focus group, and 80 questionnaires were administered with head of heads of household.
Results: Findings revealed that there are number of socio-economic factors that malaria interventions might not pay attention on them but they might be contributing to the spread of malaria in the community. The study discovered the situation of having poor housing facilities, irregular use of bed nets, poor sleeping habits, low household incomes; unaffordable bed nets, participation in nocturnal social activities such as traditional dance festivals, the presence of uncovered water tanks and heaps of domestic appliances in dark corners all contributed to spread of malaria in the community

Conclusion: The community needs to be empowered and informed on the persisting behaviors that lead to malaria spread.

54. Title: Phase II Evaluation of three rapid diagnostic tests (CareStart™ Malaria HRP-2, pLDH [Pf-pLDH/pan-pLDH] and HRP-2/pLDH (Pf/pan) Combo Tests) for the diagnosis of malaria.

Author(s): Ngasala B

Institution:
Department of Parasitology and Entomology, Muhimbili University of health and Allied Sciences, Tanzania

Background: This study was aimed at testing the diagnostic performance of three malaria rapid diagnostic tests (RDTs) (CareStart™ Malaria HRP-2, pLDH [Pf-pLDH/pan-pLDH] and HRP-2/pLDH (Pf/pan) Combo Test) with reference to light microscopy for the diagnosis of falciparum malaria in Tanzania.
Methods: Blood samples were collected from 627 patients suspected to have malaria at Miswe, and Yombo (Bagamoyo District) and Muhoro and Ikwiriri (Rufiji District) Health Centers from October 2013 to December 2013. The samples were examined immediately by light microscopy and the CareStart™RDTs. Statistical analysis was performed using Stata version 11.
Results: Overall 222 of 627 (35.45%) malaria suspected cases were detected by microscopy compared to 221 of 627(35.25%) by CareStart™ Combo kit, 216 of 627 (34.45%) by both HRP-2 and PLDH RDT kits. CareStart™Combo RDT kit's sensitivity and specificity for the diagnosis of malaria were 99.5% (97.5%-100%, 95% CI) and 100% (99.1%-100%, 95% CI) respectively, compared to standard microscopy. The sensitivity and specificity of CareStart™ HRP-2 and PLDH were both found to be 97.3% (94.2%- 99%, 95% CI) and 100 %(99.1%-100%, 95% CI), respectively. All the three CareStart™ RDT kits had the same positive predictive values of 100% (98.3%-100%, 95% CI). The CareStart™Combo RDT kit's had negative predictive value of 99.8% (98.6%-100%) compared to 98.5% (96.8%- 99.5%) for CareStart™ HRP-2 and PLDH kits.
Conclusion: The CareStart™ Malaria tests (CareStart™ Malaria HRP-2, pLDH [Pf-pLDH/pan-pLDH] and HRP-2/pLDH (Pf/pan) Combo Test) had good accuracy comparable to gold standard microscopy. The RDT could therefore be used in place of light microscopy, at primary health care facilities.

WEDNESDAY, 14th – MAY, 2014 16:15 – 17:00
PARALLEL SESSION: MKAPA HALL 1
THEME: MILLENIUM DEVELOPMENT GOALS

55. Title: Clinical and Immunological Effects of a reduced daily dose of Stavudine among Antiretroviral naïve HIV-infected individuals in Dar es Salaam, Tanzania: A randomized, controlled study.

Author(s): Buma D[1], Moshiro C[2], Bakari M[3], Fawzi W[4], Mugusi F[3]

Institutions:
[1]Department of Pharmacy, Muhimbili National Hospital (MNH), Dar es Salaam, Tanzania.
[2]Epidemiology and Biostatistics, Muhimbili University of Health and Allied Sciences (MUHAS), Dar es Salaam, Tanzania,
[3]Departments of Internal Medicine Muhimbili University of Health and Allied Sciences, Dar es Salaam, Tanzania,
[4]Department of Global Health and Population, Harvard School of Public Health, Boston, USA.

Background: Although recent WHO guidelines recommend withdrawing stavudine (d4T) from first-line ART therapy, it remains commonly used in resource-constrained settings. We compared the immunological and clinical effects of further reduction of stavudine dose to 30mg once-daily in the prospective open-label randomized controlled study.
Methods: Naïve HIV infected patients were equally randomized either to receive stavudine 30mg once-daily or zidovudine standard dose regimens. CD4 counts, haemoglobin (Hb), alanine aminotransferase (ALT), Body mass index (BMI), WHO stage and patients' morbidity at baseline, three and six months were determined. Changes from baseline, three and six months were compared within-and between-groups
Results: Five hundred and twenty patients aged ≥ 18 years were analysed. Males were 159 (30.6%) with the mean age of 39 years. At baseline, the arms were similar in demographics, clinical and laboratory indices. Within group comparison indicated that there were statistically significant increases in CD4 counts, BMI, and Hb ($p<0.0001$) from baseline to three and six months in both groups. However, a between group comparison did not indicate any differences in terms of CD4 counts between stavudine and zidovudine based regimens. Furthermore, a between group comparison of clinical features showed no statistically significant differences at baseline, three and six months. However, a statistically significant decrease in incidence rate of opportunistic infectionswas observed.Between group comparison showed that the zidovudine based group had lower mean haemoglobin level at three and six months compared to baseline with $p=0.048$ and $p<0.0001$ respectively. Additionally, liver damage indicated by ALT was statistically significant; $p < 0.0001$ favored the stavudine based group at six months. There were no statistically significant differences in ALT between the groups at three months.
Conclusion: The immunological and clinical outcomes for a reduced dose of stavudine to 30mg once-daily are similar to that of standard zidovudine-based antiretroviral regime.

56. Title: Assessment of lipid profile in HIV infected patients on the first line antiretroviral therapy

Author(s): Ombeni W[1], Kamuhabwa A[1]

Institution:
[1]Unit of Pharmacology and Therapeutics, School of Pharmacy, MUHAS

Background: The use of antiretroviral therapy has been reported to cause dyslipidemia and increased risk of cardiovascular diseases (CVD) in HIV-infected patients in industrialized countries. The effects of ARVs on lipid metabolism among sub-Saharan Africans, for whom access to antiretroviral therapy is expanding, remain largely unknown. Therefore assessement of lipid profile as a marker for CVD is important in order to identify ARVs regimen that are most likely to cause this problem among the users.
Objective: The aim of the study was to determine the prevalence of dyslipidemia in HIV-infected patients using the first line ARVs triple regimen. The magnitude of the prevalence will help in addressing factors associated with dyslipidemia and discuss the treatment of choice for individual**s** with dyslipidemia on ARVs triple regimen.
Methodology: The study was conducted at Muhimbili National Hospital (MNH) Care and Treatment Clinics (CTC). Patients (230) that were included are those who are HIV infected, outpatients, aged >15yrs using triple therapy of ARVs for at atleast 24 weeks. Blood samples from patients were collected during their regular visits at the CTC and assayed for determination of total cholesterol (TC), triglyceride**s** (TG), high density lipoprotein (HDL) and low density lipoprotein (LDL) cholesterol.
Results: Majority of patients (75.9%) were females. The mean age of the patients was 42 ± 9.19 years. The prevalence of hypertriglyceridemia, hypercholesterolemia, incresed LDL and low HDL were 69.9%, 46.3%, 43.9% and 34.3% respectively.
Conclusion: There is high prevalence of dyslipidemia among HIV-infected patients using ARVs. If the association between the use of ARVs and high preverance of dyslipidemia is confirmed in larger studies, these findings may influence the initial choice of therapy for HIV infection, and routine monitoring of lipid profile among patients.

57. Title: Nevirapine-induced hepatotoxicity in HIV patients attending care and treatment clinics in Iringa regional hospital

Author(s): Mafuru M, Kamuhabwa A

Institution:
Unit of Pharmacology and Therapeutics, School of Pharmacy, Muhimbili University of health and Allied Sciences MUHAS

Background: Nevirapine is one of the most widely used ARVs in the first-line triple ART, particularly in low and middle-income countries. One of the primary concerns with the use of nevirapine containing regimen is nevirapine-associated hepatotoxicity. Nevirapine is reported to be associated with early hypersensitivity reactions which can cause fulminant hepatitis leading to hepatic failure and death, particularly in the first 18 weeks of therapy**.**
Aim: This study aimed to assess the prevalence of hepatotoxicity in HIV-infected patients taking nevirapine-containing ARVs in comparison with patients using efavirenz-based ARVs.
Materials and methods: The study involved screening of 373 HIV-infected patients (224 taking nevirapine-based regimen and 149 taking efavirenz-based regimens). Recruited patients were those who are on ARVs for at least two weeks attending CTC at Iringa Regional Hospital. Blood samples from patient swere collectedand assayed for ALT& AST levels (as markers of liver toxicity) by using HumaLizer 3500. Liver toxicity was defined as an increase in transaminase levels of 1.25-fold above the upper limits ofnormal range.

Results: Mild to moderate hepatotoxicity was observed in 27 patients (12.1%) among nevirapine-based regimen users compared to 6 patients (4%) using efavirenz-based regimen (P = 0.004). There was no indication of severe hepatotoxicity (Grade 3 to 4) in both groups of patients. Hepatotoxicity was common (13.2%) in patients who are on nevirapine-based regimen for more than 12 months than those who were using the same regimen (4.3%) for less than 12 months. No association was found between age, gender, body mass index, CD_4 cell count and duration of use of ARVs and hepatotoxicity.
Conclusion: Liver damage is three times more common in patients receiving nevirapine than in those takingefavirenzi. Based on the findings of this study, hapatotoxicity due to nevirapine-based regimen is mild to moderate and may occur at any time of therapy. Routine monitoring of liver aminotransferances should be conducted in patients taking nevirapine containing ARV regimen.

WEDNESDAY, 14th – MAY, 2014, 16:15 – 17:00
PARALLEL SESSION: MKAPA HALL 2
THEME: TRANSLATING HEALTH RESEARCH FINDINGS INTO POLICY AND PRACTICES

58. Title: Moving Towards ART for Life for Pregnant and Lactating Mothers in Tanzania: An Exploratory Qualitative Study of Stakeholder Viewpoints

Author(s): Chebet J[1], George A[1], Frumence G[2], Mosha I[3], Applegate J[1], Chitama D[2], Winch P[1], Killewo J[4], Charles K[5]

Institutions:
[1]Department of International Health, Johns Hopkins Bloomberg School of Public Health, 615 N. Wolfe Street, Baltimore, MD, USA
[2] Department of Development Studies, School of Public Health and Social Sciences, Muhimbili University of Health and Allied Sciences, P.O Box 65454, Dar es Salaam, Tanzania
[3]Department of Behavioural Sciences, Muhimbili University of Health and Allied Sciences, P.O Box 65015, Dar es Salaam, Tanzania
[4]Department of Epidemiology and Biostatistics, Muhimbili University of Health and Allied Sciences, P.O Box 65015, Dar es Salaam, Tanzania
[5]Department of Obstetrics and Gynecology, Muhimbili University of Health and Allied Sciences, P.O Box 65015, Dar es Salaam, Tanzania

Background: Vertical transmission of HIV accounts for 90% of the estimated 430,000 children infected by HIV annually. Policies on the Prevention of Mother to Child Transmission have evolved in recent years based on WHO guidelines. Early 2014 Tanzania saw the inauguration of option B+, which entails lifelong ART for pregnant and lactating mothers with the goal of eliminating vertical transmission of HIV.
Objective: To assess key stakeholder viewpoints on the implementation of the new guidelines on elimination of mother to child transmission using Option B+ regimen
Methods: Cross-sectional qualitative study methods were employed, using semi-structured in-depth interviews. At all levels, interview guides explored awareness, perceived implementation

challenges, and perceived roles each respondent group envisions they will play in the implementation of the program. Data was thematically analyzed.
Results: Although option B+ was known and accepted at the national, regional and district levels, health providers, and more so CHWs were unaware of the new policy. Despite not fully understanding the policy change, all respondents were responsive and emphasized their willingness to implement the policy once it was disseminated to their level. Anticipated barriers to the implementation and sustainability of the program were related to adequate and consistent drug supply, especially due to heavy donor dependence for the program. Based on level of influence and agreement with option B+, the MoHSW, global level stakeholders and funders emerged as the major drivers of the program. Regional and district levels emerged as critical supporters of option B+. However, because of their relatively low level of influence, facility and community level stakeholders were categorized as bystanders
Conclusions: Tanzania is working towards the elimination of mother to child HIV transmission. Option B+ has been identified as one of the methods to accomplish this goal. Adequate and consistent ART drugs supply is required for a successful program.

59. Title: Effectiveness of workplace HIV/AIDS policy and programme interventions in commercial plantations in Iringa region

Author(s): Matimbwi T[1] and Mangi E[2]

Institutions:
[1] International Labour Organization, Dar es salaam, Tanzania
[2]Department of Behavioural Sciences, Muhimbili University of Health & Allied Sciences

Background: Since the inception of HIV/AIDS policy and programme interventions at workplaces in both public and private sector institutions; little is known about their effectiveness.
Objective: This study aimed at assessing and documenting the effectiveness of workplace HIV/AIDS policy and programmes interventions in commercial plantations in Iringa region.
Methods: A descriptive cross sectional study was conducted in five commercial plantations. Interviews were conducted with five representatives from companies' management and questionnaires were administered to 273 employees. Data analysis was done using SPSS version 17 and thematic analysis of transcripts.
Results: About 87.2% of respondents were aware of the existence of company policy, and 77.7% knew its content. About 51.2% of respondents knew about prevention services, HIV education 37.2%, 7.4% HIV related stigma and discrimination and 4.2% treatment services. About 76.2% of respondents reported on condom promotion and availability at workplace and 63.0% used condoms with non-regular partners. 70.7% of respondents used condoms in the six months prior to the study. Majority (82.8%) reported to use onsite VCT clinic while 17.2% opted offsite VCT. High proportion (80.2%) said that workplace HIV activities contributed to the willingness to seek VCT services. The study reveals that 76.2% and 76.6% were satisfied with the HIV prevention and treatment services respectively.
Conclusion: HIV/AIDS workplace programme interventions are effective and should be scaled-up. Increased awareness among employees on company HIV policies, interventions and services provided at the workplace hold the potential for improved access and utilization of services.

60. Title: Motivation and Job Satisfaction of Community Health Workers in Morogoro Region, Tanzania

Author(s): Mpembeni R[1]; Bhatnagar A[2]; LeFevre A[2]; Chitama,D[3]; Urassa, D[4]; Semu,H[5]; Mondea, P[6]; Killewo J[1]; Kilewo, C[7]; Baqui, [2] and George, [2].

Institutions:
[1]Department of Epidemiology and Biostatics, Muhimbili University of Health and Allied Sciences, P.O Box 65015, Dar es Salaam, Tanzania
[2]Department of International Health, Johns Hopkins Bloomberg School of Public Health, 615 N. Wolfe Street, Baltimore, MD, USA
[3]Department of Development Studies, Muhimbili University of Health and Allied Sciences, P.O Box 65015, Dar es Salaam, Tanzania
[4]Department of Community Health, Muhimbili University of Health and Allied Sciences, P.O Box 65015, Dar es Salaam, Tanzania
[5]Ministry of Health and Social Welfare, Health Education and Promotion, P.O.BOX Dar es Salaam
[6]Jhpiego, an affiliate of Johns Hopkins University, P.O.BOX 9170 Dar es Salaam, Tanzania
[7]Department of Obstetrics and Gynaecology, University of Health and AlliedSciences, P.O Box 65015, Dar es Salaam, Tanzania

Background: In 2012, Tanzania approved national guidelines for an integrated maternal, newborn, and child health community health worker (CHW)- the frontline for Tanzania's community health system. To support retention and performance, as well as to understand CHW needs as community based providers, this study developed contextually adapted scales to measure job satisfaction and motivation.
Methods: A census of all CHWs that received training by July 2013 was undertaken in five districts of Morogoro region. CHW satisfaction was assessed through 27 items covering training and service provision; equipment and supplies; supervision; job relations and remuneration. Motivation was assessed through 29 indicators including (a) reasons why you are a CHW; (b) value in the eyes of society and health workers; and (c) workload. Content validity was measured through a parallel qualitative study conducted in the same setting. Reliability tests and factor analysis were used to simplify the scales and compute outcome indices.
Results: A total of 228 of 238 CHWs were interviewed in their communities between September and October of 2013. Factor analysis of the job satisfaction scale identified six underlying factors. Ranging from those most problematic (transport and incentives) to those mostly satisfied (supervision, training,availability of registers and community respect). While factor analysis did not yield a similar result for the motivation scale, parallel qualitative analysis helped to identify commonalities. Differences by sex were not statistically significant, but older and more educated CHWs were more satisfied with incentives, supervision and community respect than other CHWs.
Conclusion: As efforts gain momentum to rollout a national cadre of CHWs, improved understanding of CHWs as people with heterogeneous needs and ambitions is vital for ensuring sustainability of the program. Study findings highlight areas for programmatic improvement (transport and incentives) and demonstrate the important role of communities supporting CHWs.

THURSDAY, 15th – MAY, 2014, 14:10 – 15:00

61. Title: Current Efficacy of Sulphadoxine-Pyrimethamine (Sp) For Intermittent Preventive Treatment of Malaria During Pregnancy In Dar Es Salaam

Author(s): Amiri R[1], Sayi G [1]. Ngaimisi E[2], Sasi P [1]

Institutions:
[1]Department of Clinical Pharmacology, School of Medicine BOX 65090, Dar Es Salaam Tanzania
[2] Unit of Pharmacology & Therapeutics, School of Pharmacy Box 65013 Dar Es Salaam, Tanzania

Background: Intermittent preventive treatment of malaria in pregnancy with Sulphadoxine-Pyrimethamine (IPTp-SP) is associated with reduced incidence of clinical malaria, asymptomatic parasitaemia and anaemia, thus improving pregnancy outcome particularly by increasing birth weight. The strategy is widely used in malaria endemic countries. Currently, SP is probably the best available drug for IPTp and is reserved for the purpose in many countries. This reduces sustained drug pressure to *P.falciparum*, which may increase the level of SP resistance. However, there are anecdote reports that SP continues to be used in non-pregnant patients in Tanzania. Indeed, at least one meta-analysis has indicated that the benefit of SP for IPTp may be declining.
Objective: To determine the current efficacy of SP for intermittent preventive treatment of malaria during pregnancy in Dar es Salaam.
Methodology: Two doses of SP were given to 310 pregnant women according to national guidelines. All participants were followed up and evaluated at least once a week 28 onwards and at delivery.
Results: A total of 310 pregnant women with a mean age (±SD) 26.4 (±0.3) years were enrolled. The proportion of low birth weight was not different from previous studies (6.5%versus 7.3 %; P = 0.721). The proportion of subjects with peripheral parasitemia at delivery was 2% (6/296). None had severe anemia or clinical malaria at delivery, and only six women (2%) had clinical malaria during follow up.
Conclusions: Efficacy of SP for IPTp seems to be at a level similar to what it was about ten years ago. Our data are reassuring that the efficacy of IPTP-SP is still high and the Ministry of Health and Social Welfare may not need to change the policy for treatment of malaria in pregnancy at the moment. However, regular monitoring is essential for timely corrective measures when the need arises.

62. Title:Defining therapeutic day 7 lumefantrine concentration thresholds in uncomplicated falciparum malaria

Author(s): Ngasala B

Institution:
Muhimbili University of Health and Allied Sciences and WWARN Lumefantrine PK/PD Study Group

Background: Achieving adequate antimalarial drug exposure is essential for the cure of malaria. Artemether-lumefantrine is the most widely used artemesinin-based combination for treatement of uncomplicated *Plasmodium falciparum* malaria. The day 7 lumefantrine concentration is a simple measure of drug exposure associated with treatment response. However, the 'therapeutic' thresholds published to date range from 170 ng/mL to 500 ng/mL, suggesting that this needs to be better defined for key target and parasite populations. Individual studies are generally underpowered to accurately define the minimum drug exposure required to achieve a cure.
Methods: To assess the relationship between lumefantrine exposure and therapeutic responses to artemether-lumefantrine in uncomplicated falciparum malaria, the pharmacology module of the WorldWide Antimalarial Resistance Network (WWARN) has conducted the largest ever pooled analysis of individual patient antimalarial PK-PD data, initially focusing on the day 7 lumefantrine concentrations.
Results: Day 7 lumefantrine concentrations and treatment responses were available for 2,715 patients from 23 studies. PCR confirmed recrudescence and *P. falciparum* reinfection during follow-up occurred in 87 and 395 patients, respectively.. The main correlates of recrudescence risk were Day 7 lumefantrine concentration [HR 0.511 (95% CI 0.411-0.635), p<0.001] and baseline parasitaemia [HR 2.123 (95%CI 1.429-3.154), p<0.001]. Adjusted for mg/kg dose, day 7 lumefantrine concentrations in children <5years of age were 33% lower than in older patients. Day 7 Lumefantrine concentrations were 81% higher with supervised than unsupervised treatment. The highest risk of recrudescence was observed in areas with decreased artemisinin suscepatibilty, very low transmission intensity, and in underweight-for-age children <5 years in areas with moderate/high transmission intensity. To achieve 95% efficacy in these high risk groups, Day 7 lumefantrine concentrations up to >1000 ng/ml (depending on baseline parasitaemia) would be required. For all other populations studied, Day 7 concentrations above 200 ng/ml appear sufficient.
Conclusions: Current artemether-lumefantrine dosing recommendations are adequate for most patients. However, alternative dosing strategies need to be evaluated in underweight-for-age young children. In areas with decreased artemisinin susceptibility, and the very low transmission areas we studied, it is unlikely that effective artemether-lumefantrine concentrations could be achieved, so alternative treatments should be considered.

63. Availability and utilization of mRDTs in private health facilities, Tanzania.**(Mkombachepa M**)

64. Title: Health Workers and maternal health.Exploring governance issues within a rural district, Tanzania.

Author(s): Mkoka D[1], Mahiti G[2], Kiwara A[2], Mwangu M2, Goicolea A[3]

Institutions:
[1]Department of Clinical Nursing, School of Nursing, Muhimbili University of Health and Allied Sciences
[2]Department of Development Studies, School of Public Health and Social Sciences, Muhimbili University of Health and Allied Sciences
[3]Department of Public Health and Clinical Medicine, Unit of Epidemiology and Global Health, Umeå University, 901 85 Umeå, Sweden.

Background: Availability of health workers with required skills, positive attitude, behaving professionally and motivated is the key for improving maternal care in Tanzania. The aim of this study is to explore health workers perspectives of governance related issues affecting their roles in providing quality maternal care.
Methods: In-depth interviewswere conducted with health workers from different facility levels in order to explore their views of governance related issues affecting their roles in provision of maternal care. Documentary reviews and a survey of health facilities wereconducted to supplement the data. All the materials were analysed using a thematic content analysis approach.
Results: Participants viewed that maternal care provision is suboptimal with incomprehensive antenatal care, unsafe and unclean delivery care and uncompleted postpartum care. They were of the view that difficult working environment handicapped their capacity to provide quality maternal care and that they worked with unsettled mind as a result of poor living condition. Failure of their needs to be met by the management was reported to lower their morale for work. Lack of fairness and transparency in dealing with health workers financial claims and lack of clear strategic plan for staff capacity building and carrier development were pointed out as issues that contribute in demotivating health workers and lower their performance.
Conclusion: Shortage of health workers coupled with poor working conditions is a contributory factor for suboptimal maternal care provided in rural facilities. To maximize their performance, working condition and living condition should be improved while meeting their rights timely and equitably as they fulfil their roles. Special focus should be directed toward improving governance of health workers management system for better performance of health workers.

65. Title:Barriers facing health workers in providing Family Planning services in rural areas: A case of Morogoro Region Tanzania

Author(s): Mosha I[1], Frumence G[2], Chitama D[2], Chebeti J[3], George A[3] and Killewo J[4]

Institutions:
[1]Department of Behavioural Sciences, Muhimbili University of Health and Allied Sciences, P.O Box 65015, Dar es Salaam, Tanzania
[2]Department of Development Studies, Muhimbili University of Health and Allied Sciences, P.O Box 65015, Dar es Salaam, Tanzania
[3]Department of International Health, Johns Hopkins Bloomberg School of Public Health,

615 Wolfe Street, Baltimore, MD, USA
[4]Department of Epidemiology and Biostatics, Muhimbili University of Health and Allied Sciences, P.O Box 65015, Dar es Salaam, Tanzania

Background: Health providers are important in providing family planning commodities to clients for spacing or limiting birth. Knowing and addressing barriers facing health providers when providing family planning is vital in achieving the fertility decline goal.
Methods: In depth interviews were used to collect data among twelve health providers working in Reproductive and Child Health clinics at the facilities in three districts of Morogoro region in Tanzania.
Results: The results showed that health providers face different types of barriers when providing family planning to clients. This included misconception about family planning methods, secret use of family planning by women, need to provide quick services to secret users of family planning, lack of male partner participation in family planning clinics, running out of stock for family planning methods and lack of knowledge to offer permanent family planning methods.
Conclusion: Barriers facing health providers in providing family planning should be addressed for the effective and sustainable use of family planning in Tanzania.

66. Title: Incentives for motivating and retaining Community Health Workers (CHWs) and their relative importance; Insights from Discrete Choice Experiment in Morogoro rural-Tanzania

Author(s): Chitama D[1], Frumence G[1], Urassa D[2], Mpembeni R[3], Mosha I[4], Chebeti J[5], LeFevre A[5] and Killewo,J[3].

Institutions:
[1]Department of Development Studies, Muhimbili University of Health and Allied Sciences, P.O Box 65015, Dar es Salaam, Tanzania
[2]Department of Community Health, Muhimbili University of Health and Allied Sciences, P.O Box 65015, Dar es Salaam, Tanzania
[3]Department of Epidemiology and Biostatics, Muhimbili University of Health and Allied Sciences, P.O Box 65015, Dar es Salaam, Tanzania
[4]Department of Behavioral Science, Muhimbili University of Health and Allied Sciences, P.O Box 65015, Dar es Salaam, Tanzania
[5]Department of International Health, Johns Hopkins Bloomberg School of Public Health, 615 N. Wolfe Street, Baltimore, MD, USA

Background: There is paucity of evidence for CHW'S incentive preferences and expectations or aspirations. The aim of this study was to explore measure and compare incentive preferences and aspirations among CHWs in Morogoro region in Tanzania.
Methods: We used the Discrete Choice Experiment (DCE) approaches to elicit incentive preferences among CHW'S in Morogoro region in Tanzania. It involved the following steps; we explored the attributes (i.e. incentives) and levels using literature search and in-depth interviews- five attributes with two levels, we used fractional factorial approach to design the

experiment considering both the analytical requirement and choice question format, we collected data using the designed DCE questionnaire with eight pair wise choice sets and we undertook statistical analysis using the multivariate ordinal regression and conditional logit regression to model respondents' choices as a function of the incentive scenarios.
Results: The conditional logit regression results show that a guarantee or possibility of future paid employment is relatively important shaping decision for CHWs job uptake followed by personal growth and development, amount of financial compensation and provision of transport are relatively important incentive in motivating and retaining community health workers. Also, mixed multivariate ordinal regression incentive preference varies with the CHWs sub groups; male CHWs prefer personal growth and development incentives compared to female CHWs. Female CHWs prefer a guarantee or possibility of future paid employment compare to male CHWs. Generally, Non financial incentives are more preferred than the financial incentives.
Conclusion: The evidences of various aspirations and possible behaviors of community health workers and subgroups enables or inform policy-makers in crafting better policies for motivating and retention of the CHW where they are needed. CHWs, policy makers should contextualize the incentives by considering CHWs incentive preferences and expectations as incentive effectiveness is a function of individual preferences and aspirations.

THURSDAY, 15th – MAY, 2014, 09:40 – 11:10
PARALLEL SESSION: MANDELA HALL
THEME:**NON COMMUNICABLE DISEASES**

67. Title: Screening for Impaired Glucose Tolerance and Type 2 Diabetes Mellitus in rural and urban settings in Kilombero district, Tanzania

Author(s): Donath D, Dida F, Mselle T

Institution:
Department of Biochemistry, Muhimbili University of Health and Allied Sciences

Background: The rapid increase in type 2 diabetes mellitus in urban centers' in sub Saharan Africa has been attributed to the changing lifestyles, obesity, lack of physical activities, and diet modifications. Studies carried out over 20 years ago revealed that the prevalence of Type 2 Diabetes Mellitus (T2DM) in rural settings was as low as 0.3%. Whether the picture remains the same given the, major changes in demography and socioeconomics dynamics in the country is not clear.
Aim: The overall goal of this study was to determine the prevalence ofImpaired Glucose Tolerance (IGT) and T2DM, and its associated risk factors in both rural and urban areas of Kilombero district, Tanzania.
Methods: 150 participants aged 25 years and above from rural and urban areas of Kilombero District were studied. IGT and type 2 diabetes mellitus were determined by a fasting glucose test, and a two hour post-meal blood glucose levels determined. Body mass Index (BMI), physical activities, family history of diabetes, and life style such as food, smoking habit, and alcohol consumption were also recorded.
Results: The prevalence of T2DM in both rural and urban areas of Kilombero district was 3%. Sex, age and alcohol were found to be risk factors. IGT and T2DM was significantly

higher in males, it was found 3-4 times more common individuals aged 40 year above. Alcoholism was found in 100% and 66% of patients with IGT and T2DM respectively.
Conclusions: Although the prevalence of diabetes mellitus in Kilombero district was low, the impaired glucose tolerance levels were significantly high suggesting that increase in the prevalence of diabetes in the future. Increased health education and access to screening is required for this area to facilitate early detection of DM patients.

68. Title: Effects of leisure time physical activity on metabolic profile in adult city-dwellers with overweight, obesity or type 2 diabetes in Tanzania.

Author(s): Mashili F[1], Lutale J [2], Njelekela M[1,] and Ramaiya K [2,]

Institutions:
[1] Department of Physiology, Muhimbili University of Health and Allied sciences (MUHAS), Dar es salaam, Tanzania
[2] Department of Internal Medicine, Muhimbili University of Health and Allied Sciences (MUHAS), Dar es salaam, Tanzania.

Background: The proportion of working adults with sedentary occupations in Sub-Saharan Africa has considerably increased. Leisure-time physical activity (LTPA) could be an alternative for the control of inactivity related illnesses.
Aim: To investigate the effects of LTPA on the metabolic profile in overweight, obese and T2D adults, residents of Dar es salaam city, in Tanzania.
Methods: The relationship between physical activity and metabolic variables was assessed in 400 lean, overweight, obese and T2D subjects. To determine the effects of increased LTPA on anthropometric and metabolic variables, 230 subjects (100 overweight, 80 obese and 50 newly diagnosed T2D patients) were instructed to participate in LTPA for a period of six weeks. Participants maintained activity diaries. Dietary habits were unaltered. Anthropometric variables, resting heart rate, blood pressure, clinical chemistry, maximum oxygen uptake and self-reported physical activity (questionnaire) were assessed at the time of inclusion and after six weeks.
Results: High to moderate occupation-related physical activity, were significantly more frequent in lean (26%) compared to overweight (9%), obese (3%), and T2DM (4%) subjects at baseline ($p<0.001$). In general, fewer (5%) participants engaged in moderate to high LTPA before the intervention. LTPA was significantly associated with High Density Lipoprotein (HDL) cholesterol, systolic BP, and resting heart rate in obese and T2D subjects. body composition, HDL-cholesterol, fasting glucose levels, blood pressure and resting heart rate improved significantly in obese and T2DM subjects after six weeks participation in LTPA.

69. Title: Health Care for Diabetes in Rural Tanzania

Author(s): Mwangome M[1], Geubbels E[1], Klatser P[2] and Dieleman M[2]

Institutions:
[1]Ifakara Health Institute, Tanzania

[2]Royal Tropical Institute, Netherlands

Background: In 2012Tanzania's adult national diabetes prevalence was estimated at 9.1%, but only 9% of rural facilities in the country provided diabetes services.
Aim: To determine how diabetes services in a rural district of Tanzania are delivered.
Methods: We performed a qualitative study of health provider's perspectives. Providers were purposively sampled from four health facilities of different levels along a referral chain in a rural district. In-depth interviews, knowledge questionnaires and a facility survey involving observation, document reviews and interviews were used. Information was triangulated from different sources and using different methods for validation, in Nvivo 10.0.
Results: Diabetes services were available at district and referral levels only. Continuity of care was dis-jointed both within and between facilities and providers felt ill-prepared in terms of, knowledge, skills, equipment and work aids including frequent lack of medication. The patient health information system for diabetes was unreliable. Furthermore, patient and service quality monitoring and support for patient self-management was weak.
Conclusion: The district was not prepared for diabetes care delivery. Care at higher levels only made services in rural areas inaccessible and expensive hence increasing inequity Improving access and quality of diabetes care for chronically ill patients in rural areas requires interventions in areas of community involvement, human resources, and referral and information systems. Chronic care for HIV and TB has been rolled out to primary level facilities in Tanzania and health services for NCDs including diabetes could be hinged on these experiences in the spirit of integration.

70. Title: Lived Experiences on use of Diabetic Medications and Continuity among Adults in South Eastern Tanzania

Author(s): Metta E[1,2], Bailey A[2], Kessy F[3], Geubbels, E[1]; Hutter I[2], and Haisma H[2]

Institutions:
[1]Ifakara Health Institute, P.o.Box 78373, Dar es Salaam Tanzania
[2]University of Groningen, Faculty of Spatial Sciences, Population Research Centre, Landleven 1, 9742 AK, Groningen, The Netherlands
[3]Mzumbe University, P.o.Box 20226, Dar es Salaam, Tanzania

Background: Diabetes is a chronic condition requiring many patients to use life-long medications. Despite such a demanding endeavor, little is known on the individual experiences with diabetes medication use and continuity, especially from rural areas of Tanzania.
Aim: To explore the lived experiences with diabetes medication use continuation among adult community members
Methods: We conducted four focus group discussions followed by nineteen in-depth interviews with adult diabetic community members in Kilombero district. This allowed for in-depth exploration of the long-term medication use experiences of patients in rural areas.
Results: Study participants were positive to the use of diabetic medicines. However, high costs for accessing these medicines from health facilities and their unavailability especially in

rural villages were the main barriers for their continued use. Selling of household properties to secure income, sourcing the medicines from pharmacies, buying half doses, using under doses and dose omissions were reported as coping strategies. Use of local herbs such as "Moringe oliferus" and "Aloevera" leaves either simultaneously or interchangeably with western medicines was also reported. Uncertainty on which medicine is effective in curing the condition was the motive for their being used together. The continuity of medication use was affected by alcohol use, fear of side effects and loss of hope for getting better.
Conclusion: Health facility and individuals' aspects are the main barriers for adult diabetic patients' medication use continuity. There is a need to improve availability, accessibility, affordability, acceptability and accommodation of the diabetic medicines. Diabetic patients need to be informed of the possible consequences of not using the medicines as advised, encouraged to use appropriate treatments and tomaintain continuity of care.

71. Title: Latent life related diseases in Dodoma Municipality, Dodoma

Author(s): Mutabazi, S[1]; Moshi, N[1]; Obimbo F[1]; Azaliwa R[1] Muhunzi, S[1]; Mapunda F[1], Nassari N[1]; Hasegawa A[2] and Tanaka, A[2]

Institutions:
[1] Health department, Dodoma Municipality, Dodoma, Tanzania
[2] Japan International Cooperation Agency, Tokyo, Japan

Background: Lifestyle related diseases (LRD) are emerging in Dodoma Municipality. Although LRD can be prevented, there is no necessary information to rely on in order to make strategies.
Aim: To assess the existence of risk of LRD in the council
Methods: We targeted men aged 20-60 years who had few access to health services except for sick treatments, conducted "Men's Health Day" at Makole Urban Health Centre on 16 November 2013, and offered health check-up including height, weight, body mass index (BMI), waist circumference (WC), and blood pressure (BP). We classified them as two groups; normal and above normal according to the WHO guideline, calculated the percentage per element. The relationships between BMI and BP, and between WC and BP, were assessed by chi-square test. The statistical analysis was performed using Microsoft Office Excel 2010.
Results: The number of subjects was 213. Mean age 33.3 ± 10.9. The percentage of the above normal group of BMI (over 25), WC (over 94cm), systolic BP (higher than 130mmHg), and diastolic BP (higher than 85mmHg), were 24.9%, 14.6%, 39.4 %, and 20.7 % respectively. About a risk of hypertension there was a significant difference between groups under and over 25 of BMI ($p<0.01$), and between groups under and over 94cm of WC ($p<0.05$).
Conclusions: The risk of LRD is present in Dodoma Municipality. As those whose BMI and WC are over the standard are more likely to suffer from hypertension, the weight control is considered significant. Strategies against LRD should be implemented as an imminent priority. After all we believe that the introduction of health promotion is highly needed for even countries where primary health care is still a priority. We also wish to have our own standards for Tanzanians so that we can make appropriate strategies to protect our people against LRD.

72. Title: Prevalence and risk factors for sleep apnoea hypopnoea syndrome in Kinondoni municipality, Dar es Salaam Tanzania.

Author(s): Shayo G[1], Mugusi F[1]

Institutions:
[1]Department of internal medicine, Muhimbili University of Health and AlliedSciences,Tanzania

Background: Obstructive sleep apnea (OSA) is characterized by nocturnal snoring interrupted by recurrent obstructive apnea-hypopnoea episodes resulting into daytime hyper somnolence. The magnitude of this condition in Kinondoni municipality is not known.
Methods: Households were randomly sampled. Eligible members were interviewed and underwent anthropometric measurements. Epiworth sleepiness scale was used to asses one's likelihood of daytime sleepiness. OSA was defined as the presence of 2 of the following: Symptoms of obstructive sleep apnoea, a BMI ≥ 28 kg/ m² and a total Epworth score≥ 15.
Results: We studied 1249 people, 65.2% were females. Night snoring was reported by 9.3% respondents. The prevalence of OSA was 11.5% (144/1249). OSA was significantly more common among females (12.9%), p = 0.038. OSA prevalence increased significantly with increasing age, (p <0.001), increased BMI, p value < 0.001. Respondents with central obesity and those who snored at night significantly presented with high prevalence of OSA, being 34% and 29.3% respectively, p value < 0.001 for each.
The risk for OSA was higher among females, OR (95% CI) = 1.2 (0.8-2.0), p = 0.038, among age group 35-44 years compared to age group 18-24 years, p = 0.021, among overweight respondents compared to underweight, OR (95% CI) = 6.2 (3.4-11.3), p <0.001 and among obese respondents OR (95% CI) =2.0(1.2-3.4), p=0.008. Socio-economic status, cigarette smoking, alcohol consumption, hypertension and diabetes mellitus could not predict OSA
Conclusions: OSA is prevalent among residents of Kinondoni. Female sex, increased age, obesity and overweight were highly associated with OSA.

THURSDAY, 15th – MAY, 2014, 09:40 – 11:10
PARALLEL SESSION: MANDELA HALL
THEME: MILLENNIUM DEVELOPMENT GOALS BEYOND 2015

73. Title: Men's knowledge of obstetric danger signs, birth preparedness and emergency readiness in Rural Tanzania

Author(s): August F[1, 2], Pembe A[1, 2], Mpembeni R[3], Axemo P[2], Darj E[2, 4]

Institutions:
[1]Department of Obstetrics and Gynecology, MUHAS,
[2]Department of Women's and Children's Health, International Maternal and Child Health, Uppsala University, Sweden
[3]Department of Epidemiology and Biostatistics, School of Public Health and Social Sciences,

MUHAS
[4]Institute of Public Health and General Practices, Norwegian University of Science and Technology, Trondheim, Norway

Background: Male involvement in maternal health has been related to elevated use of skilled attendance at delivery.Thus awareness of obstetric danger signs, birth and emergency preparedness measures among men is likely to influence their spouses use of antenatal care and delivery services.
Aim: To assess the level of knowledge of obstetric complications and birth preparedness among men in a rural Tanzania
Methods: A cross sectional survey was done in rural Tanzania where 726 men were randomly selected for the study. A structured questionnaire was used to obtain information on socio-demographic characteristics, knowledge of obstetric danger signs, birth and emergency preparedness.
Results: Men new at least one danger sign during; pregnancy (34%), delivery (28%) and puerperium (25%). Regarding birth preparedness and complication readiness; 10.4% mentioned transport, 46.6% money saving, 0.2% blood donor, 0.8% a skilled birth attendant and 1.8% health facility identification. Knowledge on birth preparedness was associated with having a wife who had previous obstetric complication (OR=2.0, 95%CI; 1.2 – 3.2) and previous delivery in a health facility (OR=2, 95% CI; 1.7 – 4.4). Men were less likely to be well prepared if they resided in a rural area (OR=0.6, 95% CI; 0.4-0.8)
Conclusion: ANC services should be designed in a way that favors male participation during antenatal care as they are important stakeholders in maternal health.

74. Title: Women's preferences regarding infant or maternal antiretroviral prophylaxis for prevention of mother-to-child transmission of HIV during breastfeeding and their views on Option B+ in Dar es Salaam, Tanzania.

Author(s): Ngarina M[1, 2], Tarimo E[3], Naburi H[4, 5] Charles K[6], Sando M[7], Chalamilla G[7], Biberfeld G[2], Ekstrom A[5]

Institutions:
[1] Department of Obstetrics and Gynaecology, Muhimbili National Hospital, Dar es Salaam, Tanzania
[2] Swedish Institute for Communicable Disease Control (SMI), Solna, Sweden and Department of Microbiology, Tumor and Cell Biology, Karolinska Institutet, Stockholm, Sweden
[3] Department of Nursing Management, Muhimbili University of Health and Allied Sciences, Dar es Salaam, Tanzania
[4] Department of Pediatrics, Muhimbili University of Health and Allied Sciences, Dar es Salaam, Tanzania
[5]Department of Public Health Sciences, Karolinska Institutet and Department of Infectious Diseases, Karolinska University Hospital, Stockholm, Sweden.
[6]Department of Obstetrics and Gynaecology, Muhimbili University of Health and Allied Sciences, Dar es Salaam, Tanzania
[7] Management and Development for Health (MDH), Dar es Salaam, Tanzania

Background: The WHO 2010 guidelines for prevention of mother-to-child transmission (PMTCT) of HIV recommended prophylactic antiretroviral treatment (ART) either for infants (Option A) or mothers (Option B) during breastfeeding for pregnant women with a CD4 count of >350 cell/µL in low-income countries. In 2012, WHO proposed that all HIV-infected pregnant women should receive triple ART for life (B+) irrespective of CD4 count. Tanzania has recently switched from Option A to B+, with a few centers practicing B. However, more information on the real-life feasibility of these options is needed. This qualitative study explored women's preferences for Option A vs B and their views on Option B+ in Dar es Salaam, Tanzania.
Methods: Afour focus group discussions were conducted with a total of 27 pregnant women with unknown HIV status, attending reproductive and child health clinics, and 31 in-depth interviews among HIV-infected pregnant and post-delivery women, 17 of whom were also asked about B+.
Results: Most participants were in favor of Option B compared to A. The main reasons for choosing Option B were: HIV-associated stigma, fear of drug side-effects on infants and difficult logistics for postnatal drug adherence. Some of the women asked about B+ favored it as they agreed that they would eventually need ART for their own survival. Some were against B+ anticipating loss of motivation after protecting the child, fearing drug side-effects and not feeling ready to embark on lifelong medication. Some were undecided.
Conclusion: Option B was preferred. Since Tanzania has recently adopted Option B+, women with CD4 counts of > 350 cell /µL should be counseled about the possibility to "opt-out" from ART after cessation of breastfeeding. Drug safety and benefits, economic concerns and available resources for laboratory monitoring and evaluation should be addressed during B+ implementation to enhance long-term feasibility and effectiveness.

75. Title: Adherence to Antiretroviral Therapy Among HIV Infected Children in Dar Es Salaam, Tanzania- Risk of Applying One Adherence Determination Method.

Author(s): Mghamba F[1], Minzi O[2], Massawe A[3] and Sasi P[1]

Institutions:
[1]Department of Clinical Pharmacology, School of Medicine BOX 65090, Dar Es Salaam Tanzania
[2] Unit of Pharmacology & Therapeutics, School of Pharmacy Box 65013 Dar Es Salaam, Tanzania
[3] Department of Paediatrics, School of Medicine, Box 65001, 65013 Dar Es Salaam, Tanzania

Background: Adherence to antiretroviral drugs in pediatric HIV infection is complicated because of many factors including stigma and drug intake logistics. Therefore, combination of adherence methods is important.
Aim: To determine the level of adherence to antiretroviral therapy, measured by caretaker report, medication return and nevirapine plasma concentration and compare the association between level of adherence and patient's immune status across the three methods of measuring adherence.
Methods: This was a descriptive cross-sectional study involving HIV infected children aged 2–14 years, on nevirapine- based antiretroviral treatment for at least six months, attending

care and treatment clinic in three municipal hospitals in Dar- Es- Salaam City. Eligible patients and their accompanying caretakers were consecutively enrolled after obtaining written informed consent. Structured questionnaire was administered to caretakers to assess patient's adherence by caretaker report and medication return whereas a single blood sample for CD4 cellcount/percent and determination of nevirapine plasma concentration was taken from patients on the day of assessment.
Results: A total of 300 patients and accompanying caretakers were enrolled and the mean patient age (SD) was 8 (3) years. Caretakers' report and medication return showed good adherence (98% and 97%) respectively. However, the level of adherence assessed by nevirapine plasma concentration (85%) was significantly lower than caretaker report and medication return ($p < 0.001$). The agreement between nevirapine plasma concentration and medicationreturn and between nevirapine plasma concentration and caretaker report was weak ($k = 0.131$) ($k = 0.09$) respectively. Nevirapine plasma concentration below 3 μg/ml was associated with immunosuppression ($p = 0.021$).
Conclusion: Lower adherence level observed using nevirapine plasma concentration and its association with immunological response supports the validity of the method and indicates that adherence data obtained from caretaker report and medication return may overestimate the true adherence in pediatric antiretroviral therapy.

76. Title: An analysis of pre-service family planning teaching in clinical and nursing education in Tanzania

Author(s): Muganyizi P[1], Ishengoma J[2], Kanama J[2], Kikumbih N[2], Mwanga F[2], Killian R[2] & McGinn E[3]

Institutions:
[1]Department of Obstetrics & Gynecology, Muhimbili University of Health Sciences (MUHAS), Tanzania.
[2.]EngenderHealth, ACQUIRE Tanzania Project (ATP), Dar es Salaam.
[3]EngenderHealth 440 Ninth Avenue; New York, NY 100001 USA.

Background: Promoting family planning (FP) is a key strategy for health, economic and population growth of Sub-Saharan Africa. One strategy is to improve the quality of FP services, including enhancing pre-service FP teaching.
Aim: The study sought to analyze gaps in pre-service FP teaching and identify opportunities for strengthening the training.
Methodology: Data were collected from medical schools and pre-service nursing, Assistant Medical Officer (AMO), Clinical Officer (CO) and assistant CO schools in mainland Tanzania. A semi-structured questionnaire was used to interview teachers. Availability of teaching equipment and facilities for FP teaching were documented using a checklist. Curricula and syllabi were assessed for their suitability for competency-based FP teaching against predefined criteria established by the National Council for Technical Education (NACTE) and Tanzania Commission for Universities (TCU) guidelines. Quantitative data were analyzed using EPI Info 6 and qualitative data were manually analyzed using content analysis.
Results: A total of 35 pre-service schools were evaluated including 30 non-degree schools

and five degree offering schools. Of the 11 pre-service curricula used to guide teaching in these schools, only one met the criteria for suitability of FP teaching. FP teaching was typically theoretical with only 25.7% of all the schools having systems in place to produce graduates who could skilfully provide FP methods. Across schools, the target skills were to same level of competence and skewed towards short acting methods of contraception. Only 23% (n=7) of schools had skills laboratories, 73% (n=22) were either physically connected or linked to FP clinics. None of the degree providing schools practised FP at their own teaching hospital.

Conclusions: Pre-service FP teaching in Tanzania is theoretical, poorly guided, and skewed toward short acting methods; a majority of the schools are unable to produce competent FP service providers.

77. Title: Utilization of Reproductive Health Services among Secondary School Youths in Iringa Municipality, 2012

Author(s): Kamugisha, H and , Kessy A

Institution:
Department of Community Health, Muhimbili University of Health and Allied Sciences, P.O Box 65015, Dar es Salaam, Tanzania

Background:
Youths comprise about 18% of the total population worldwide and about 80% of them live in the low-income countries. Poor utilization of reproductive health (RH) services among youths is a problem of concern globally, regionally and locally with significant unmet needs for RH services for youths.

Aim: The study intended to determine the use of reproductive health services by secondary school youths.

Methods: A descriptive cross-sectional study was conducted among 347 secondary school youths aged between 15 and 24 years in Iringa Municipality. Ethical approval to conduct the study was sought from MUHAS.

Results: Youths who participated in the survey comprised of 204 (58.8%) females and 143 (41.2%) males.Ninety-eight percent of the males and 96% of the females had heard about reproductive health services. Seventy two females (36.0%) and 59 males (41.6%) reported to have ever sought Reproductive Health(RH) services, and the highest proportion of youths who ever sought RH services belonged to the age group 19+ years (57.9%) whereas the smallest proportion was among those aged 15 – 16 years (32.9%). Increased use of the services was observed with advanced age of the respondents (X^2= 8.26; p= 0.02).Among youth who had never utilized RH services, the most commonly advanced reasons for non-use included; not having any reproductive ill-health condition (82.0%), not being aware of the availability of the services (19.0%) and experiences from friends who were dissatisfied with health workers at the clinics (16.1%).

Conclusion: Despite high levels of awareness of reproductive health services among secondary school youths in Iringa municipality, study findings depict a relatively low level of utilization of the services.

78. Title: Contraceptive Knowledge, Attitude and Practice among secondary school girls in Morogoro municipality.

Author(s): Swai E, Mgaya H.

Institutions:
Department of Obstetrics and Gynaecology, Muhimbili University of Health and Allied Sciences

Background: Sexual activity is prevalent among unmarried adolescents and there is a significant rate of unwanted pregnancy and abortions leading to health consequences and poor educational attainment. Sexually active adolescents require special information, counseling and services on family planning, however contraceptive (CP) knowledge and use among adolescents in schools is not well documented.
Objective: To determine CP knowledge, attitude and practice among secondary school girls and existing barriers to its utilization.
Methodology: Six non faiths based secondary schools were randomly selected, from which girls aged 14 to 19 years were randomly selected to participate.
Data was collected by a self administered questionnaire then analyzed by SPSS computer software version 18. Univariate analysis was conducted to determine knowledge, attitude and practice of modern contraceptives. Chi-square test was applied to determine the association between social demographic characters, knowledge, attitude and contraceptive practice. P value <0.05 was significant.
Results: A total of 386 girls were interviewed. Fifty eight percent of respondents had good knowledge on modern CP, 52% had positive attitude towards modern CP and 45% were sexually active. Among sexually active 41% had used modern CP. CP use was significantly associated with increasing age (29%) while fear of CP side effect was the most common reason for not using modern CP (57%).
Conclusion: This study has shown above average level of knowledge and positive attitude toward modern contraception among school girls. However CP practice among this group is low as they face wide range of barriers. Further studies on the parent's attitude towards adolescent contraceptive use may narrow the observed gap

THURSDAY, 15th – MAY, 2014, 09:40 – 11:10
PARALLEL SESSION: MKAPA HALL 1
THEME:**BASIC RESEARCHIN HEALTH ISSUES**

79. Title: Flour dust and respiratory health among flour milling workers in Dar es Salaam: A cross sectional study

Author(s): Mlelwa R and Mamuya S

Institutions:

Department of Environmental and Occupational Health, School Of Public Health and Social Sciences, P.O Box 65015, Dar es Salaam

Background: Dust is known as an influential agent and a most frequent cause illinesses of respiratory systems. In working areas, the respiratory diseases result from exposure to the dust which may cause acute or chronic respiratory effects.
Objective: The study assessed respiratory health symptoms among flour milling workers in Dar es Salaam.
Methods: 104 workers in flour milling industry, and 100 controls participated in the cross sectional study. Information on demographic characteristics, occupation, respiratory symptoms, smoking habits and use of respiratory protection equipments was collected by questionnaire adopted from the American Thoracic Society. Peak flow rates by use of peak flow rate meters were performed to assess lung function of study population.
Analysis of data was done using SPSS program in which frequencies obtained, Chi-squire test and Fisher exact test measured association between exposed and non exposedparameters. The criterion for significant association was when $p<0.05$.
Results: Exposed workers had higher prevalence of respiratory symptoms than controls with significance difference for: day or night coughing, 12(25%) vs. 6(13.3%) for females, and 11(19.6.%) vs. 2(3.6%) for males, p=0.006, coughing 4times a day for more than 4 days a week, 9(18.8.%)vs. 1(1.2%) for females, p=0.003, shortness of breath when walking and stop for breath, 5(10%) vs. (2.2 %) for females, and 11(19.6%) vs. 3(5.5%) p=0.010). Also there was an increasing trend of symptoms for exposed versus non exposed , both male and females, though the significance difference was in day or night coughing, shortness for breath when walking and stop for breath among females, and, coughing 4times a day for more than 4days/ week
The mean work duration for exposed workers was 6 years (SD +/- 6.088) and 5 years (SD +/- 2.821) for non exposed workers. However, the difference was not statistically significant.
Smoking is an important risk factor for chronic respiratory symptoms, smokers among exposed were21(20.2%) and control were 19(19%) however, the differences in respiratory symptoms between exposed and non exposed cannot be explained by smoking, since the difference in smoking prevalence among the two groups is not statistically significant.
Conclusion: Flour mills workers have higher prevalence of respiratory symptoms probably caused by dust exposure, independent of smoking habit. Higher prevalence suggests the relationship between flour dust exposure and respiratory symptoms. There is need to carry out more robust study to ascertain the dust exposure levels in relation to occupational exposure limits (OEL) and respiratory health effects.

80. Title: Respiratory Health symptoms among street cleaners of Dar es Salaam City

Author(s): Mamuya S

Institution:
Department of Environmental and Occupational Health, School of Public Health and Social Sciences - MUHAS

Background: Street working environment condition expose workers to organic and inorganic dust from petroleum products, vehicle fumes and dust from the road. Continuous exposure may predispose workers to respiratory health problems ranging from acute to chronic symptoms..
Objective: To determine the prevalence of respiratory health symptoms and associated factors among street sweepers in Dar es Salaam city roads.
Methodology: Cross-sectional analytical study was designed. 102 street sweepers and 85 street vegetable sellers none smokers from Ilala Municipal who had worked for more than one year were studied. Respiratory health symptoms and socio-demographic information were collected by using a modified American Thoracic Society respiratory symptoms questionnaire. Levels of utilization of PPEs were assessed by closed ended questions. Frequency distributions were generated. Chi square test and logistic regression were used to test associations.
Results: The prevalence of respiratory health symptoms was higher among exposed than unexposed group and the difference was statistically significant($P<0.05$), for cough(54.9% vs 12.9%, phlegm (39.2%vs7.1%),wheezing(32.4%vs14.1%), nose irritating (35.8%vs4.7%), and sneezing (63.7%vs 8.2%).
Street sweeping dust was the main associated factor to cough, phlegm, wheezing, nose irritating and wheezing outcomes, while age associated with cough and phlegm outcomes. Duration of employment associated with cough and breathlessness outcomes among street sweepers, the association was statistically significant $p<0.05$.
Conclusion: Respiratory health symptoms are associated with street sweeping dust exposure and the prevalence of respiratory health symptoms are higher among exposed group than unexposed group. It is recommended that the appropriate PPEs be used during street sweeping and medical intervention be implemented for further diagnostic like sputum testing, chest x-ray for street sweepers. A follow-up study with a strong causal relationship is recommended.

81. Title: Patterns of Severe traumatic work-related injuries in Tanzania

Author(s): Kishashu Y

Institution:
Department of environmental and occupational health , Muhimbili University of Health Sciences (MUHAS), Tanzania.

Background: Injury is one of the leading causes of death and permanent disability in both developed and developing countries, resulting tremendous personal burden on the injured and their families (Mock et al., 2003). Severe work-related injuries are a serious public health concern that affects people in the most productive years of their lives; representing a special burden to developing countries like Tanzania.
Aim: The overall aim of this study was to characterize the patterns of severe traumatic work-related injuries, using multiple data sources.
Methods: The study data were collected from a specialist trauma hospital for a period of one year, in which all adult-traumatic injury cases admitted to the study hospital were asked to

participate in the study. Structured interviews were conducted after signing an informed consent form. Screening questions were included and their responses established work-relatedness of an injury case before detailed interview was conducted.
Results: Of the 1385 traumatic injury cases admitted to the study hospital during the study period, 638 (46%) were identified as work-related. Majority (93%) of the injury cases were males. The country's workforce with peak severe work-related injury burden for both sex were those aged between 26 and 35 years, who had experienced fifteen times (44%) the injury burden experienced by the least affected age group. Section of the population most affected was those aged between 16 and 45 years with more than three quarters of the injury burden. Transportation was the most affected industry with 27% of severe work-related injury burden. Almost half (45%) of the workforce sustained work-related injuries while commuting.
Conclusion: Our study has revealed new patterns of work-related injuries in Tanzania, suggesting road traffic crashes as the leading cause of work-related injuries. Road traffic safety therefore, becomes an important component of workers safety in Tanzania

82. Title: Symptom based screening tool in ruling out active tuberculosis among HIV infected patients eligible for isoniazid preventive therapy in Tanzania.

Author(s): Shayo G[1], Minja L[1], Egwaga S[2], Bakari M[1], Mugusi F[1].

Institutions:
[1]Department of Internal Medicine, Muhimbili University of Health and Allied Sciences, Tanzania,
[2] National Tuberculosis and Leprosy Program of the Ministry of Health and Social Welfare of Tanzania.

Objectives: We assessed the usefulness of the National TB and Leprosy Control Program (NTLP) symptom based tuberculosis (TB) screening tool in identifying HIV infected patients eligible for isoniazid preventive therapy in Muhimbili National Hospital, Dar es Salaam Tanzania.
Methods: This was a descriptive cross sectional study. Data collected included socio-demographic and clinical data. Chest x-ray, sputum for acid fast bacilli (AFB) microscopy, mycobacterial culture, CD4+ count and complete blood count were done. Patients were considered not having active TB if they presented with no symptom in the screening tool which comprised of these symptoms; cough, fever, and excessive night sweats for $\geq$ 2 weeks; weight loss of $\geq$ 3 kg in 4 weeks and haemoptysis of any duration. The reference standard was a negative culture for *Mycobacterium tuberculosis*.
Results: We enrolled373 patients, of whom 72.1% were females.Active pulmonary TB was found in 4.1% (14/338) of the participants as defined by a positive culture. The sensitivity and specificity of the NTLP screening tool was 71.4% (10/14) and 75.9% (246/324) respectively. False negative rate was 28.6% (4/10). Cough, fever for $\geq$ 2 weeks and weight loss were independent predictors of NTLP- defined TB. Cough $\geq$ 2 weeks predicted TB when a positive culture was used to define TB.
Conclusion: The screening tool had fairly good sensitivity and specificity for TB screening; however there is a possibility that about 29% of the screened population will be given IPT while they are supposed to receive a full course of TB treatment.

83. Title: Diverse predominance ofMycobacterium tuberculosisstrain families for human TB isolates fromthe Serengeti Ecosystem of Tanzania

Author(s): Mbugi E[1], Katale B[2, 3], Keyyu J[3], Kendall S[4], Good L[4], Kibiki G[5], Kazwala R[6], Dockrell H[7], Michel A[8], Streicher E[9], Warren R[9], Matee M[2], van Helden P[9].

Institutions:

1 Department of Biochemistry, Muhimbili University of Health and Allied Sciences, P. O.Box 65001Dar es Salaam, Tanzania

2 Departments of Microbiology and Immunology, Muhimbili University of Health and Allied Sciences, P.O. Box 65001 Dar es Salaam, Tanzania

3 Tanzania Wildlife Research Institute (TAWIRI), P.O. Box 661Arusha, Tanzania

4 The RoyalVeterinaryCollege, Royal College Street, London, NW1 0TU, United Kingdom

5 Kilimanjaro Christian Medical College, Kilimanjaro Clinical Research Institute, Tumaini University, P.O. Box 2240, Moshi, Tanzania

6 Department of Veterinary Medicine, Epidemiology and Public Health, Faculty of veterinary Medicine, Morogoro, Tanzania.

7 Department of Immunology and Infection, London School of Hygiene and Tropical Medicine, Keppel Street, LondonWC1E 7HT, United Kingdom

8 Department of Veterinary Tropical Diseases, Faculty of Veterinary Science, University of Pretoria, South Africa

9 DST/NRF Centre of Excellence for Biomedical Tuberculosis Research/ Medical Research Council (MRC) Centre for Molecular and Cellular Biology, Division of Molecular Biology and Human Genetics, Faculty of Health Sciences, Stellenbosch University, PO Box 19063, Tygerberg, South Africa, 7505.

Background: Tuberculosis has been a threat to human and animal health for centuries since its discovery. Monitoring its etiology, transmission, spread and prevailing strains in both humans and animals at their interface bears a critical importance.

Aims: To evaluatethe status of tuberculosis transmission using molecular markers, basing onDNA isolates from human sputum samples and animal tissue cultures to establish TB strain profile at human-livestock-wildlife interface in the Serengeti ecosystem.

Methods: This study was part of the larger cross-sectional survey that evaluated Tuberculosis infection in both humans and animals (livestock and wildlife). The study entailed DNA isolates from sputum and tissue cultures from smear-positive pulmonary TB patients and Tb suspected animal tissues from both livestock (cattle) and wildlife (buffaloes, lions and hynas). Spacer oligonucleotide typing (spoligotyping) was used to genotype both the *M. Tuberculosis* complex and *M. bovis* isolates in an attempt to establish the circulating lineages.

Results: Of all 214 human TB DNA genotyped through spoligotyping, 56 (26.2%) were T family (an ill-defined family), 55 (25.7%) belonged to Central Asian (CAS) family, 40 (18.7%) belonged to the Latin American Mediterranean (LAM) family, 35 (16.4%) East-African Indian (EAI) family, while 8 (3.7%) belonged to Beijing family. The minority group that included Haarlem, X and S accounted for 8 (3.7%). The latter, together with the yet unidentified strain families altogether (8+12) accounted for 20 (9.3%) of all spoligotypes.

Conclusions: This study provides a reflection that, in the Serengeti ecosystem, among *M.*

tuberculosis complex strains; only few successful families predominantly infect humans with T, CAS, LAM and EAI families being abundant in the area. It also implies that a diverse of strain families rather than single dominant strain family prevailin this ecosystem with contribution of Beijing family being minor.

84. Title: Endoscopic and clinicopathological patterns of esophageal cancer in Tanzania: experiences from two tertiary health institutions.

Author(s): Mchembe M[1], Rambau P[2], Chalya P[3], Jaka H[2], Koy M[2] and Mahalu W[2]

Institutions:
[1]Department of Surgery Muhimbili University of Health and Allied Sciences, Tanzania
[2]Department of Surgery Catholic i University of Health and Allied Sciences, Tanzania

Background: Esophageal cancer is one of the most serious gastrointestinal cancer worldwide, owing to its rapid development and fatal prognoses in most cases. There is a paucity of published data regarding esophageal cancer in Tanzania and the study area in particular. This study was conducted to describe the endoscopic and clinicopathological patterns of esophageal cancer in this part of the world. The study provides baseline local data for future comparison.
Methods: This was a retrospective study of histologically confirmed cases of esophageal cancer seen at Bugando Medical Center and Muhimbili National Hospital between March 2008 and February 2013. Data were retrieved from medical record computer database and analyzed using SPSS computer software version 17.0.
Results: A total of 328 esophageal cancer patients were enrolled in the study, representing 25.3% of all malignant gastrointestinal tract tumors. The male to female ratio was 2.2:1. The median age of patients at presentation was 47 years. The majority of patients (86.6%) were peasants coming from the rural areas. Smoking and alcohol consumption were documented in 74.7% and 61.6% of patients respectively. Family history of esophageal cancer was reported in 4.6% of cases. The majority of patients (81.7%) presented late with advanced stage of cancer. Progressive dysphagia and weight loss were the most common presenting symptoms occurring in all patients. The middle third esophagus (58.5%) was the most frequent anatomical site for esophageal cancer followed by lower third (27.4%) and upper third esophagus (10.4%). Squamous cell carcinoma (96.0%) was the most common histopathological type. Adenocarcinoma occurred in 13 (4.0%) patients. TNM staging was documented in only 104 (31.7%) patients. Of these, 102(98.1%) patients were diagnosed with advanced esophageal cancer (Stages III and IV). According to tumor grading, most of tumors were moderately differentiated accounting for 56.1% of cases. Distant metastasis was documented in 43.3% of patients.
Conclusion: Esophageal cancer is not uncommon in this region and shows a trend towards a relative young age at presentation and the majority of patients present late with advanced stage. There is a need for screening of high-risk populations and detecting esophageal cancer at an early stage in order to improve chances for successful treatment and survival.

THURSDAY, 15th – MAY, 2014, 11:40 – 13:10
PARALLEL SESSION: KIKWETE
THEME: MILLENNIUM DEVELOPMENT GOALS BEYOND 2015 -6

85. Title: Venues, incentives and type of partner for the first anal sexual experience among men- who- have sex with men in Dar es Salaam, Tanzania

Author(s): Leshabari M[1], Mmbaga E[1], Moen K[2] and Mpembeni, R[1]

Institutions:
[1]School of Public Health and Social Sciences, Muhimbili University of Health and Allied Sciences, Dar es salaam, Tanzania
[2]Institute of Health and Society, University of Oslo, Oslo Norway

Background: The first study on HIV among men who have sex with men (MSM) was conducted 20 years after the epidemic was first reported. The few studies now available show that there are men who have sex with other men and that the HIV rates among them is considerably higher than that of men in the general population. However, little is known about incentive for such behaviours and venues when it was first practiced.
Objectives: The major objective of the study was to determine behavioral and biological profiles of MSM in Dar es Salaam.
Methodology: Respondent driven sampling was used for identifying study subjects and structured interviews were used for data collection from consenting participants.
Results:A total of 753 MSM participated in the study. Almost half (46.3%) were < 25 years old and 12.4% were above 34 years old. Most of the participants (83.2%) were single and 6.3% were married. Almost a third (29%) had children. The home of the partner was the most common venue for the first anal sexual experience (37.9%) followed by guest houses (27.8%),the home of the respondent (26.8%) and schools (6.7%). A few had sex for the first time in prison, abandoned buildings and on the beach. Initial partners involved friends (67.9%), fellow students (9.0 %), neighbours (7.8%) and close relatives (5.7%). When asked what prompted the first anal sexual experience, most said pleasure (77.7%) and some first did it for money (11.8%)while 9.7% reported to have been raped.
Conclusion: Homes of the partner or the respondent were the most common venue for the first anal sex among MSM. Partners were mainly friends even though fellow students, neighbors and close relatives were also involved. Pleasure was the main incentive to for the initial anal sex trial for the majority of the study subjects even though some were induced to this behavior because of money.

86. Title: Assessment of provider initiated and HIV testing and counselling (PITC) programme in Ilala, Dar es Salaam in Tanzania

Author(s): Mushi L

Institution:
Medical Association of Tanzania (MAT)

Background: Provider-initiated HIV testing and counseling (PITC) is widely recommended to ensure timely diagnosis and management of HIV infection. The Tanzanian Ministry of Health and Social Welfare introduced PITC in 2007. However, there is little evidence of provider perceptions and institutional capacity to implement PITC in Tanzania.
Objectives: This cross-sectional study aimed to evaluate client and health care worker (HCW) perceptions and institutional capacity to implement PITC
Methodology: This study was conducted at the Muhimbili National Hospital (MNH). Assessment of institutional capacity was done using a capacity assessment checklist, in-depth interviews with clients and focus group discussions with healthcare workers. The interviews and FGDS were thematically analyzed.
Results: Findings reveal a gradual increase in proportion of clients who got PITC services at the In-patient Department with time from 64% in 2007 to 96% in 2012. In contrast, the proportion TB clients who got the PITC services decreased with time, 99.53% in 2007 to 84.79% in 2012. Shortage of trained staff and appropriate counselling space were the setbacks discussed as hindering the progress and coverage of PITC services. The interviewed clients valued greatly the PITC services provided by the HCWs. Despite the fact that the PITC services drastically increased the health workers work load, the program was generally considered a valuable lifesaving intervention.
Conclusion: There is a need to improve PITC services by addressing structural and institutional barriers in order to achieve national HIV testing targets

87. Title: Seroprevalence of HIV, HBV, HCV and syphilis and associated risk factors in the fishing community in Mwanza, Tanzania.

Author(s): Kabamanya S[1], Abade A[2] and Aboud S[3]

Institutions:
[1]Departments of Epidemiology and Biostatistics,
[2]Epidemiology and Laboratory Training Program, Ministry of Health and Social Welfare, Dar es Salaam, Tanzania
[3]Microbiology and Immunology, Muhimbili University of Health and Allied Sciences; [3]Field

Background: Fishing communities have been identified among the vulnerable groups at high risk for acquiring sexually transmitted infections. This vulnerability is mainly due to their mobility, time away from home, access to cash income and commercial sex at landing sites. Data on prevalence and associated factors for sexually transmitted infections in fishing communities is limited.
Aims: To determine the seroprevalence of human immunodeficiency virus infection (HIV), hepatitis B virus (HBV), hepatitis C virus (HCV) infections and syphilis and the associated risk factors in the fishing communities.
Methods: This was a cross sectional community-based study conducted at Mwaloni landing site along the shores of Lake Victoria basin in Mwanza region conducted between October 2012 and March 2013.Information on socio-demographic characteristics and factors associated with acquisition of HIV, HBV, HCV and syphilis were obtained using a structured questionnaire. Blood samples were collected and screened for HIV, HBV, HCV and syphilis. Multivariate

logistic regression was performed to determine the risk factors for acquisition of infections. A p-value of ≤ 0.05 was considered statistically significant.
Results: A total of 448 individuals were included in the study. The mean age was 33.5 years (range 18-70 years).Many participants (61.2%) were malesand(70.5%) had primary education. Of participants 235 (52.5%) were fish traders. The prevalence of HIV, HBV, HCV and syphilis were found to be 9.8%, 9.2%, 5.6% and 14.3%, respectively. Regular alcohol consumption was found to be a risk factor for acquiring HIV infection (OR=4.4, 95%CI=1.7-11.8) in the fishing community. Study participants who had used the health services in the past one year were more likely to have HIV infection (OR=3.8, 95%CI=1.9-7.4) Health services were accessible within a distance of five kilometres and 29.5% of the study respondents had used these services in the past twelve months.
Conclusions: The prevalence of STIs in the fishing community was found to be higher compared to the prevalence figures of STIs in Tanzania for the general population. Regular alcohol consumption was found to be a risk factor for acquiring HIV in the fishing community. Utilization of health services in the fishing community was found to be low.

88. Title: Contraceptive practices in youths willing to participate in HIV vaccine trial in Dar es Salaam

Author(s): Mbunda T[1,2], Guerrino C[3], Bakari M[1], Tarimo E[4], Sandstrom E[5] and Kulane A[2]

Institutions:
[1]Department of Internal Medicine, School of Medicine, Muhimbili University of Health and Allied Sciences, Dar es Salaam, Tanzania;
[2]Global Health, Department of Public Health Sciences,
[3]Management and Development for Health (MDH), Dar es Salaam, Tanzania, Karolinska Institutet, Stockholm, Sweden;
[4]Department of Nursing Management, School of Nursing, Muhimbili University of Health and Allied Sciences, Dar es Salaam, Tanzania;
[5]Department of Clinical Science and Education, Sodersjukhuset, Karolinska Institutet, Stockholm, Sweden

Background: Youths are disproportionately affected with HIV/AIDS, bearing half of new infections. Availability of an effective HIV vaccine is the cornerstone towards ending the epidemic. It is imperative to include youths in preventive HIV vaccine trials because they are primary beneficiaries of HIV vaccine should an effective one becomes available. Participation in HIV vaccine trials however necessitates participants not to become pregnant or impregnate women. Therefore it is important to study dynamics of contraceptive practices among young adults.
Aim: To determine contraceptive practices among youths willing to participate in HIV vaccine trial
Methods: We conducted a cross sectional survey using structured questionnaires to four hundred and fifty youths who attended a youth's clinic at Infectious Diseases Clinic in February to September 2012
Results: Fifty one percent of the participants expressed willingness to participate (WTP) in HIV vaccine trial. Seventy three percent of those expressing WTP knew contraception was for

spacing children; all of them mentioned at least one contraceptive method; ninety percent knew contraceptives were available at a health facility. However only forty five percent had ever used contraceptives, with only forty nine percent reporting to have used contraceptives at the time of last sexual intercourse. The reasons for not using contraceptives were not being married; lack of knowledge on contraceptives; religious prohibitions; and having infrequent, unplanned sexual intercourse.
Conclusions: Despite the fact youths are well informed and knew where to get contraceptives, their practices lag behind their knowledge. It is essential to address impediments pertaining to contraceptive use in the Tanzanian context for the youths to be fully involved in HIV vaccine trials.

89. Title: A study of the prevalence of infectious markers in blood donors in rural areas. The case of Kamina hospital

Author(s): Nzaji M

Institution:
Institute of Medical Techniques of Ext Kamina Mulongo

Background: The transmission of infectious agents such as the human immunodeficiency virus (HIV), hepatitis B (HBV), hepatitis C (HCV) and syphilis is the greatest threat to transfusion recipient safety. The purpose of this study was to determine the sero-prevalence of infectious markers with a view to contributing to transfusion safety by selecting donors.
Methods: A retrospective analysis of the medical records of blood donors covering the period 1 January to 31 December 2008 was conducted. The global sero-prevalence of HIV, HBV, HCV and syphilis was, respectively, 2.9%, 1.6%, 0.2% and 0.2%. A high sero-prevalence was found in the 16-25 and 46-55-year age groups, while there was a high prevalence of syphilis in the 16-25-year age group
Results: The results confirm the presence of infection by hepatitis B in Kamina and provide an initial insight into the circulation of the hepatitis C virus, the HIV virus and syphilis in the blood donor population.
Conclusion: Rigorous selection and screening procedures among blood donors are needed to ensure transfusion recipient safety.

90. Title: Parasite clearance and recurrence time following treatment with Artemether/Lumefantrine among children with uncomplicated malaria

Author(s): Mwaiselo R, Mwaiswelo[1], Ngasala B[1], Xu W[2], Bjorkman A[2], Premji Z[1], Martensson A[2]

Institutions:
[1]Department of Parasitology and Entomology, Muhimbili University of health and Allied Sciences, Tanzania
[2] Karolinska Institutet Stockholm, Sweden

Background: Artemisinin resistance has been confirmed in South-East Asia, expressed phenotypicaly by a slow rate of parasite clearance. The phenomenon may spread to Africa.
Aim: To assess parasite clearance time and time to recurrent infection following treatment with Artemether/Lumefantrine (AL) among children with uncomplicated *Plasmodiumfalciparum* malaria.
Methods: An exploratory study was conducted between May and July 2012, at Fukayosi dispensary, in Bagamoyo district, Tanzania involving children aged 6-120 months with uncomplicated malaria. Children were screened, enrolled, hospitalized and received supervised AL treatment for 3 days. Blood samples were collected on blood slides and filter papers at -2 (screening time), 0 (medication time), 4, 8, 12, 18, 24, 30, 36, 42, 48, 54, 60, 66 and 72 hours, and on days 7, 14, 21, 28, and 42. Parasitaemia was assessed by Microscopy and Polymerase chain reaction (PCR). Parasite clearance half-lives were estimated using parasite clearance estimator available online. Further genotyping was done for parasites' alleles in chromosomes (MAL) 10 and 13, and *P. falciparum* multidrug resistance (*Pf*mdr) 1 N86Y and chloroquine resistance transporter (*Pf*crt) K76T genes selection and assess its association with clearance and recurrence time. Primary end-point was median parasite clearance time.
Results: Median parasite clearance time was 24 hours (Interquartile range [IQR], 18-28.50), and median clearance half-life was 1.54 hours (IQR, 1.12-2.03). PCR median clearance time was 168 hours (IQR, 72-336). There was no selection of MAL10 and MAL13. Parasites carrying *Pf*mdr1 86N and *Pf*crt 76K alleles cleared slowly and recurred early on day 14. Median recurrence time was 28 days (IQR, 28-38.3).
Conclusion: Microscopic clearance was rapid with no selection of MAL10 and MAL13, however, the observed prolonged PCR clearance of parasites carrying *Pf*mdr1 86N and *Pf*crt 76K probably indicates tolerance of these alleles against AL.

THURSDAY 15th – MAY, 2014, 11:40 – 13:10
PARALLEL SESSION: MANDELA
THEME: **NON-COMMUNICABLE DISEASES**

91. Title: Outcomes of patients with and without pulmonary hypertension who underwent cardiac surgery at Muhimbili hospital 2008 - 2012

Author(s): Mutagaywa R, Lwakatare J

Institution:
Department of Internal Medicine, Muhimbili University of Health and Allied Sciences

Background: Pulmonary hypertension (PHT) can complicate Rheumatic Heart Disease (RHD) and Congenital Heart Disease (CHD). Early intervention is the mainstay to avoid PHT and its complications.
Aim: To describe the outcomes of patientswith and without PHT admitted for cardiac surgery at Muhimbili National Hospital (MNH)

Methods: 453 patients were assessed retrospectively from patient's files, wards and theatre records. Data were recorded and filled in a structured questionnaire followed by analyses.
Results: 330 patients underwent surgical operation in which 212 had RHD, 91 had CHD, 14 had both RHD and CHD, and 13 had other forms of cardiac diseases. Among the operated patients, data on PHT were available in 259 (78.5%), where 178 (68.7%) had PHT. In the RHD group, PHT was present in 150 (82.0%) of patients in which 31.7% were mild, 30.6% moderate, and 19.7% severe PHT. In the CHD group, PHT was present in 18 (32.1%) patients, 14.3% were mild, 16.1% moderate, and 1.8% severe PHT.
At the end of patient's files review from the day of surgery to the day each patient last seen, 47 (18.1%) patients died, 80.9% of them had PHT. Patients who died from RHD, 26 (66.7%) died within 90 days (early mortality) and 88.5 % of these had PHT. All of deaths in CHD group were early mortality and all of them had PHT. Morever, patients with PHT stayed longer in ICU postoperatively versus patients without.
Conclusion: Prevalence of PHT in patients undergoing cardiac surgery at MNH is high especially in those with RHD. PHT was associated with early postoperative mortality. These findings call for intense care during the early postoperative period and further studies are required to look for other factors of mortality.

92. Title: Perceptions of Healthy Eating and Identity-making among University Students in Tanzania: a qualitative study

Author(s): Nyato D

Institution:
University of Dodoma, Department of Sociology & Anthropology, Dodoma, Tanzania

Background: A change in food and eating habits is among major reasons for increasing obesity and non-communicable diseases (NCDs) in most low-income countries, including Tanzania. However, little is known on how people perceive healthy food and eating in changing food environments as well as identities emerging out of eating practices.
Aim*:* of this study was to explore perceptions about food, eating and identity among University students and their implication to obesity and NCDs' preventive efforts.
Methods: This study employed an ethnographic approach. Participant observations were initially conducted in major sources of food utilized by students, and later in-depth interviews (36 participants) and six focus group discussions (42 participants) were conducted.
Results: Analyses reveals that; (a) the food environment has an important influence of what people eat; (b) knowledge of healthy food and eating does not necessarily lead to healthy eating, rather, constructions are associated with certain foods and eating.
Conclusion: Influencing the food context especially in institutional setting such as Universities has the potential of determining eating practices. Efforts are required to demystify some false social identities associated with unhealthy foods and eating practices.

93. Title: Effectiveness of nutritional counseling on nutrition status of children with cerebral palsy: A methodological paper

Author(s): Milinda S[1, 3], Leyna G[2] and Massawe A[3]

Institutions:
[1]Department of Paediatrics, Muhimbili National Hospital;
[2] Department of Epidemiology & Biostatistics, School of Public Health and Social Sciences, Muhimbili University of Health and Allied Sciences;
[3]Department of Paediatrics, Muhimbili University of Health and Allied Sciences

Background: Cerebral palsy (CP) is a non-progressive neuromuscular disorder of varying degrees resulting from damage or a defect in the part of the brain that controls motor function. CP children experience feeding and drinking problems that affects child's nutritional status and failure in growth. Lack of nutritional counseling services on feeding practices contribute to high prevalence of malnutrition in these children resulting into increases health care burden. This study aims at assessing the effect of nutrition counseling on nutritional status of children with CP at Muhimbili National Hospital, in Tanzania.
Methods: This is randomized controlled clinical trial using a block stratified sampling technique. Underfive children with diagnosed CP and feeding problems whose parents have consented to a number of 140 are eligible participants to either interventional or control group. Instruments have been developed and interviewers have been trained. Recruitment and intervention is on progress. Participants in intervention group receives 6 nutrition counselling, 4 feeding position therapy sessions and two home visits follow-up while participants in the control group receive routine care. Anthropometric measurements, feeding practices and 24-h recall food intake are assessed. The primary outcome measures an increase weight gain to 1.15kg or above; Secondary outcome measures the change proportion of children with improved feeding skills and caregiver-child relationship.
Conclusion: The results of this trial will provide evidence on effectiveness of nutrition counselling as a low-technology intervention on management of CP children with feeding problems in Tanzania.

94. Title: Sickle Cell Disease in Pregnancy: An Emerging Challenge in Obstetric Practice in Tanzania

Author(s): Muganyizi P, Kidanto H

Institution: Department of Obstetrics & Gynecology, Muhimbili University of Health and Allied Sciences (MUHAS), Dar es Salaam, Tanzania

Background: SCD in pregnancy is associated with increased adverse fetal and maternal outcomes. In Tanzania where the frequency of sickle cell trait is 13% there has been scanty data on SCD in pregnancy.
Aim: To compare Fetal and maternal outcomes of SCD deliveries with non-SCD deleveries
Methodology: Fetal and maternal outcomes of SCD deliveries at Muhimbili National Hospital (MNH) from 1999 to 2011were compared with non-SCD. Data were analyzed using IBM SPSS statistics version 19. Chi square and Fisher Exact tests were used to compare proportions and the

independent t-test for continuous data. To predict risks of adverse effects, odds ratios were determined using multivariate logistic regression. A p-value <0.05 was considered significant.
Results:A total, 157,473 deliveries occurred at MNH during the study period, of which 149 were SCD (incidence of 95 SCD per 100,000 deliveries). The incidence of SCD increased from 76 per 100,000 deliveries in the 1999 -2002 period to over 100 per 100, 000 deliveries in recent years. The mean maternal age at delivery was lower in SCD (24.0 ±5.5 years) than in non-SCD deliveries (26.2±6.0 years), p<0.001. Compared with non-SCD (2.9±0.7Kg), SCD deliveries had less mean birth-weight (2.6±0.6 Kg), p<0.001. SCD were more likely than non-SCD to deliver low APGAR score at 5 minutes (34.5% *Vs* 15.0%, OR= 3.0, 95%CI: 2.1-4.2), stillbirths (25.7% *Vs* 7.5%, OR= 4.0, 95%CI: 2.8-5.8). There was excessive risk of maternal deaths in SCD compared to non-SCD (11.4% *Vs* 0.4%, OR=29, 95%CI: 17.3-48.1). The leading cause of deaths in SCD was infections in wholly 82% in contrast to only 32% in non-SCD.
Conclusion: SCD in pregnancy is an emerging problem at MNH with increased adverse fetal outcomes and excessive maternal mortality mainly due to infections.

95. Title:a+_thalassemia, and red cell growth factors, but not placental malaria, contribute to fetal anemia risk in Tanzania

Author(s): Kabyemela E[1], Fried M [2], Kurtis J [3], Moses G[4], Muehlenbachs A[5]and Duffy P[6]

Institutions:
[1] Muhimbili University of Health and Allied Sciences, Tanzaania
[2]Laboratory of Malaria Immnunology and Vaccinology, NIAID, NIH, USA
[3]Centre for International Health, Brown University, USA
[4]MOMS Project, Seattle Biomedical Research Institute, USA
[5]Seattle Biomedical Research Institute
[6]Laboratory of Malaria Immunology and Vaccinology, NIAID, NIH

Background: Fetal anemia is common in malarious areas, and is a risk factor for anemia during infancy. Placental malaria (PM) and red cell abnormalities have been proposed as possible etiologies, but the relationship between PM and fetal anemia has varied in earlier studies, and the role of red cell abnormalities has not been studied.
Aim: We set out to determine maternal and fetal factors that contribute to the risk of fetal anemia in a high malaria transmission area in Tanzania
Methods: We determined PM status, newborn red cell abnormalities, and maternal and cord blood levels of iron regulatory proteins, erythropoietin (EPO), cytokines and cytokine receptors. We examined the relationship between these factors and fetal anemia.
Results: Fetal anemia was present in 46.2% of the neonates but was not related to PM. Maternal iron deficiency was common (81.6%) and interacted with gravidity to modify risk of fetal anemia, but was not directly related to risk. Among offspring of iron-deficient women, a^{+}-thalassemia, increasing IL 6 and decreasing TNF-RI levels in cord blood, increased the odds of fetal anemia, but these effects varied with gravidity. The EPO response to fetal anemia was low or absent, and was significantly decreased in newborns.

Conclusion: Neither PM nor maternal iron deficiency are directly related to fetal anemia in an area of intense malaria transmission Instead, fetal red cell abnormalities (thalassemia) and soluble factors affecting red cell production (low erythropoietin, high IL-6) influence risk, and their contribution to risk varies according to the iron status and gravidity of the mother. In order to develop interventional strategies further studies are needed to elucidate the factors that affect fetal cytokine balance and subdued EPO response to decreasing hemoglobin levels in affected newborns.

96. Title: Description of F cells in Sickle Cell Anemia in Tanzania

Author(s): Urio F[I], Lyimo M[2], Makani J[I]

Institutions:
[1]Muhimbili Wellcome Programme, Tanzania
[2]Muhimbili University of Health and Allied Sciences, Tanzania

Background: High levels of HbF are associated with a decrease in disease severity in sickle cell anemia (SCA). The measured HbF is contained in F cells; a good correlation between the 2 has been demonstrated. HbF and F cells levels are highly variable between healthy individuals; this is amplified in SCA patients. There is limited information on F-cells in SCA in Tanzania.
Objective: The objective was to determine F cell levels in SCA by exploring the association between HbF and F cells and determining the amount of HbF/ F cell.
Method: The study was from November 2013 to March 2014 at Muhimbili National Hospital. SCA patients aged ≥ 5 years who were not on hydroxyurea were recruited. HbF levels were measured by HPLC and F cells by Flow cytometry using a mouse monoclonal antibody to HbF. The amount of HbF/Fcell was obtained using the formula HbF × MCH ÷ F cells.
Results: 100 individuals (age 9 - 60 years) were recruited consisting of 84 SCA (36 Male; mean age 39.8yrs) and 16 non- SCA (HbAA) (9 Male; 30.4yrs). Median HbF for SCA was 8.8%(IQR 6.5- 11.4) and AA was 1.05%(IQR 0.3 - 1.2).Median F-cell for SCA and non-SCA was 38.09%(IQR 29.31 - 47.83)and 3.93(IQR 2.5 - 6.7) respectively.95% of HbSS had F cell > 10% but only three patients (3.6%) had RBC containing ≥ 10pg HbF. The R^2 for the association between HbF and F cell was 0.92.
Conclusion: We confirm that HbF and F-cell were high in individuals with SCA compared to AA in Tanzania. There is a positive correlation between the amount of HbF and F cells. A critical level of intracellular HbF of ≥ 10pg is thought to inhibit HbS polymer formation, hence a vital determinant of disease-severity than the total number of F cells or HbF levels. This study does not provide a spread of the amount of HbF per F cell.

THURSDAY, 15th – MAY, 2014, 11:40 – 13:10
PARALLEL SESSION: MKAPA HALL I
THEME: BASIC RESEARCH IN HEALTH ISSUES - 4

97. Title: Methicillin-resistantstaphylococcus aureus (MRSA) colonization among intensive care unit (ICU) patients and health care workers at Muhimbili National Hospital, Dar es salaam, Tanzania

Author(s): Alfred G[1], Abade A[3], Aboud S[2]

Institutions:
[1]Departments of Epidemiology and Biostatistics, Muhimbili University of Health and Allied Sciences
[2]Microbiology and Immunology, Muhimbili University of Health and Allied Sciences;
[3]Field Epidemiology and Laboratory Training Program, Ministry of Health and Social Welfare, Dar es Salaam, Tanzania.

Background: Methicillin-resistant *Staphylococcus aureus* (MRSA) has been recognized as important nosocomial pathogens worldwide. *S aureus* may induce clinically manifested diseases, or the host may remain completely asymptomatic.
Aims: To determine the magnitude of MRSA colonization among intensive care unit (ICU) patients and health care workers at Muhimbili National Hospital (MNH) in Dar es Salaam, Tanzania.
Methods: A cross-sectional hospital-based study was conducted from October 2012 to March 2013 in two ICUs at MNH. Admitted patients and health care workers were enrolled in the study. Interviewer administered questionnaires, patient history forms, observation charts and case report forms were used to collect data. Swabs (nostrils, axillary or wounds) were collected. MRSA were screened and confirmed using cefoxitin, oxacillin discs and oxacillin screen agar. Antibiotic susceptibility was performed using Kirby-Bauer disk diffusion method. The risk factors for MRSA were determined using the logistic regression analysis and a p - value of <0.05 was considered as statistically significant.
Results: Of the 169 patients and 47 health workers who were recruited, the mean age was 43.4 years ± SD 15.3 and 37.7 years ± (SD) 11.44 respectively. Among the patients male contributed108 (63.9%) while in health worker majority 39(83%) were females. The prevalence of MRSA colonization among patients and health care workers was 11.83% and 2.1% respectively. All (21) MRSA isolates were highly resistant to penicillin and erythromycin, and 17 (85.7%) were highly sensitive to vancomycin. Being male (AOR 6.74, 95% CI 1.31-34.76), history of sickness in past year (AOR 4.89, 95% CI 1.82- 13.12), being sick for more 3 times (AOR 8.91, 95% CI 2.32-34.20), being diabetic (AOR 4.87, 95% CI 1.55-15.36) and illicit drug use (AOR 10.18, 95%CI 1.36-76.52) were found to be independently associated with MRSA colonization.
Conclusions: There is ahigh prevalence of MRSA colonization among patients admitted in the ICU. MRSA isolates were highly resistant to penicillin and erythromycin. History of illicit drug use is highly associated with MRSA colonization.

98. Title: The prevalence of urinary tract infection among pregnant women attending antenatal clinic at Muhimbili national hospital

Author(s): Kweyamba E and Muganyizi P

Institution:

Department of Obstetrics and Gynaecology, Muhimbili University of Health and Allied Sciences (MUHAS)

Background: Urinary Tract Infection (UTI) is the most common bacterial infection in pregnancy and accounts for considerable morbidities to both the mother and the fetus. There is no recent data on magnitude of UTI in pregnancy at MNH
Objectives: The aim of this study was to determine the prevalence of urinary tract infection in pregnancy among pregnant women attending antenatalclinic at MNH.
Methodology: Descriptive cross-sectional study was conducted at MNH antenatal clinic.A structured questionnaire was used to gather data from pregnant women. Mid-stream urine culture was used to reach the diagnosis of significant bacteriuria. Data were analysed using the SPSS version 20.
Results: A total of 360 pregnant women were enrolled in this study, of these 128(35.6%) were symptomatic and 232(64.4%) were asymptomatic for UTI. The overall prevalence of UTI among pregnant women at MNH was 6.4%.The prevalence of symptomatic and asymptomatic bacteriuria was 10.2% and 4.3% respectively. *Escherichia coli* (39.13%), *staphylococcus aureus species* (26.09%) and *Klebsiella species* (21.74%) were commonly isolated. The level of resistance by gram negative organisms to antimicrobial drugs was high to Ampicillin (88.2%), Cotrimoxazole (58.8%), and Nalidic acid (58.8%) but low to Nitrofurantoin (11.8%).Gram positive organisms were completely resistant to Penicillin, mild to Methicilin (16.7%) but not resistant to Erythromycin.
Conclusion: Symptomatic and asymptomatic bacteriuria among pregnant women is still prevalent in our setting. *Escherichia coli*is the commonest uropathogen, followed by Staphylococcus *aureus*. Penicillin is highly resisted by both gram positive and gram negative organisms while Nitrofurantoin remains the drug of choice.

99. Title: Detection of carbapenems resistance using disc diffusion, E-test and PCR: Sensitivity and specificity of disc diffusion method

Author(s): Mushi M and Mshana S

Institution:
Department of Microbiology, Catholic University of Health and Allied Sciences

Background: Carbapenems are β-lactam antibiotics recommended as last resort options for treatment of systemic infections caused by multidrug resistant gram negative bacteria. The resistance of these antibiotics has been reported worldwide, particularly in the isolates involved in hospital-acquired infections. The readily available disc diffusion testing method for detection of imipenem or meropenem resistance has been reported to under estimate this problem. Therefore this study was done to evaluate the effectiveness of ertapenem (10µg) disc diffusion test using E-test and PCR as gold standard in detecting carbapenems resistance.
Methods: A total of 44 multi-drug resistant gram negative bacteria from clinical specimens were used in this study. All isolates were sub-cultured on nutrient agar and subjected to disc diffusion test, meropenem E-Test and PCR assays. For PCR assay DNA was extracted using the boiling method and for each isolate, five different PCR assays for detection of the carbapenem resistance-determining genes (VIM, IMP, KPC, OXA_48 and NDM) were performed.

Results: Using Clinical Laboratory Standard Institute criteria, 37 (84.1%) of isolates had reduced susceptibility to ertapenem (10µg) while 8 (18.2%) had minimum inhibition concentration (MIC) of ≥2µg/ml on meropenem E-test. Out of 44 isolates, 31 (70.5%) were found to harbor carbapenems resistance genes. Using E-test as gold standard sensitivity and specificity of ertapenem (DST) were 87.5% and 16.7% respectively while when PCR was used as gold standard the sensitivity and specificity were 80.6% and 7.7% respectively.
Conclusion: Despite poor specificity**,** ertapenem (10µg) has high sensitivity in detecting carbapenems resistance and should be usedin routine screening of carbapenems resistance among the MDR-GNB.

100. Title: Computerized tomographic scan findings in children with cerebral palsy seen at ABUTH Zaria, Nigeria.

Author(s): Ibinaiye P, Wammanda D, Okpe M, Kajogbola G, Gbadamosi A, Akorede S

Institution:
Radiology and Paediatric Departments, Ahmadu Bello University Teaching Hospital, Zaria, Nigeria.

Background: Cerebral palsy (CP) is defined as permanent impairment of movement and posture resulting from a non-progressive brain disorder- due to hereditary factors or events during pregnancy, delivery, the neonatal period and the first 2 years of life. This is retrospective analysis of the computed tomographic (CT) scan findings in 32 children diagnosed with CP. The aetiology and clinical features of these children were also evaluated.
Aim: The aim of this study was to describe the CT findings in children with CP and relate these to their respective aetiologies, clinical features and as well as the types of CP.
Materials and methods: The CT findings in 32 children with diagnosis of CP and with detailed clinical information were analysed. The 84.4% positive CT findings were analyzed to evaluate their relationship with the clinical types, as well as the aetiological basis for the CP.
Results: The spastic type, 78.1% of the total number of children, had the highest positive findings. The yield was increased in children with birth asphyxia (46.9%) and neonatal jaundice (37.5%). The findings were those of cerebral atrophy in 46.9%, infarcts in 12.5%, hydrocephalus in 9.4% and porencephaly 6.3% of cases. The treatable lesions, such as Dandy Walker syndrome, tumour, hydrocephalus and porencephaly were identified in 21.9% of cases.
Conclusion: CT scan is no doubt efficacious in the management of children with CP.

101. Title: Magnetic resonance imaging pattern of spine degenerative disease in adults with low back pain in Dar es Salaam, Tanzania

Author(s): Jacob M, Kazema R

Institution:
Department of Radiology, muhimbili University of Health and Allied Sciences

Background: Magnetic Resonance Imaging (MRI) is rarely used to investigate patients with

low back pain (LBP) in Least Developed Countries including Tanzania. Studies done elsewhere have reported that 80% of adults suffers from LBP and the main cause is spine degenerative disease (SDD). MRI is the best modality to diagnose SDD. The pattern of this disease in Tanzania is unknown.

Objective: We investigated MRI pattern of spine degenerative disease among adults with LBP in Dar Es Salaam.

Methods: We conducted a cross sectional study to investigate a total of 165 consecutive patients referred for MRI at Muhimbili National Hospital (MNH), Dar es Salaam from March to September 2010. Questionnaires were used to record imaging findings of SDD, including_disk degeneration, Modic changes, disk bulge and herniation, canal stenosis and nerve root compression.

Results: The main finding was that many patients (94%) had multiple SDD lesions which appeared to increase significantly with increasing age ($p < 0.05$). However, there was not any significant difference between sexes. The commonest lesions were: disk degeneration, nerve root compression and disk herniation 83%, 77% and 63%, respectively. The least common lesions were central canal stenosis and Modic changes 30% and 28%, respectively. L4/L5 & L5/S1 were the most affected spine levels.

Conclusion: MRI has shown to be useful in the diagnosis of SDD as most (94%) of patients had at least one degenerative imaging finding, hence proper evaluation of spine MRI is highly recommended for proper diagnosis hence proper patient management.

102. Title: Ultrasound measurement of the inferior vena cava to evaluate volume status in patients requiring fluid resuscitation at muhimbili national hospital

Author(s): Sawe H[1], Mfinanga J[1], Mwafongo V[2], Reynolds T [2,3]

Institutions:
[1]Emergency Medicine Department, Muhimbili National Hospital.
[2]Emergency Medicine Department, Muhimbili University of Health and Allied Sciences.
[3]Department of Emergency Medicine and Global Health Sciences, UCSF, USA

Background: Monitoring fluid responsiveness is key for better prognosis of critically ill patients with hypotension and/or shock. Central venous pressure (CVP) is used as a standard measure of volume status; however it is expensive, invasive and in some cases unreliable predictor of volume status

Objective: To determine if ultrasound measurement of IVC diameter can predict fluid responsiveness in patients requiring fluid resuscitation at EMD-, MNH.

Methods: Prospective observational study of patients presenting at EMD-MNH with hypovolemia and requiring fluid resuscitation. A structured physician data sheet was used to record serial vital signs, measured IVC during initial fluid bolus, and the treating clinician's impression of patient volume status and suspected cause of hypotension. Subjects were stratified by presenting Caval Index (CI) and clinical estimation of volume status. A T-test was used to compare the mean change in mean arterial pressure (MAP) per unit volume.

Results: Three hundred sixty four **(**364) patients were enrolled. 48.6% of patients had a CI <50% while 51.4% patients had a CI ≥ 50%. Patients with CI ≥ 50% had a 2.8 ($p<0.0001$) fold

greater fluid responsiveness than patients with CI<50%. Caval Index (CI) was lower and volume responsiveness higher in patients whose clinicians rated them as moderate and severely dehydrated as compared with those rated mild. However there was an overlap of CI and fluid responsiveness values in these clinical categories.
Conclusion: Ultrasound measurement of the IVC diameter can predict fluid responsiveness in patients requiring intravenous fluids.

THURSDAY, 15th – MAY, 2014, 11:40 – 13:10
PARALLEL SESSION: MKAPA HALL 2
THEME: TRANSLATING HEALTH RESEARCH FINDINGS INTO POLICY AND PRACTICES - 4

103. Title: Institutionalised Gender Inequity in secondary education in Tanzania: Exploring the community schools access

Author(s): Semakafu A and August F

Institution:
Department of Development Studies, Muhimbili University of Health and Allied Sciences

Background: Despite Tanzania commitment towards ensuring that its population is educated for social development, women continue to inequitably benefit from education opportunities and therefore remain marginalised in all aspect of development opportunities. Adoption of Arusha declaration, the Universal Primary Education, Musoma resolution MEMKWA and several related measures were adopted as part of expanded access to education for the population. Lack of education continues to be a stumbling block for women to access equitably development opportunities and decision-making positions.
Aim: This paper aim at discussing the gender outcome of the implementation of expanded access through community schools to both boys and girls enrolled in such schools
Methods: Desktop review of Ministry of Education data and Qualitative enquiry with stakeholders in Kyela district and Rufiji district was done to identify the access trend and situation facing students in community schools
Results: The result indicate that there is high drop-out rate for girls compared to boys, It was further found out that a large percentage of girls drop out of school due to pregnancy. Poverty, unsafe passage to and from schools and lack of safe hostel facilities have resulted Community schools to benefit negatively on girls than boys and therefore serve as institutionalised tool. The design of community school results in inequity of access with girls systematically removed from education opportunities
Conclusion: For community schools to benefit both boys and girls equitably, the government need to use gender analysis to ensure conducive environment for girls to benefit from expanded secondary education opportunities

104. Title: Knowledge and Attitude towards Rape and Child Sexual Abuse- community-based cross-sectional study in Rural Tanzania

Author(s): Abeid M

Institution:
Department of Obstetrics and Gynecology, Muhimbili University of Health and Allied Sciences

Background: Violence against women and children has gained international recognition as a grave social and human rights concern in the last few decades.
Aim: To determine community knowledge and attitude towards rape and child sexual abuse, and assess associations between knowledge and attitude with socio-demographic characteristics.
Methods: A cross-sectional study was undertaken between May and June 2012. The study was conducted in Kilombero and Ulanga rural districts in Morogoro Region of Tanzania. Through a three stage cluster sampling a household survey was conducted. In each household randomly selected eligible member was interviewed face to face using a structured questionnaire. The questionnaire included socio-demographic characteristics, attitudes about gender roles and violence, causes and health consequences of rape. Analysis was done using statistical Package for Social Sciences (SPSS) version 21. Main outcome measures were knowledge and attitude towards sexual violence. Bivariate and multivariate analyses were used to assess associations between socio-demographic characteristics and knowledge and attitude towards sexual violence.
Results*:* A total of 1,568 participants were interviewed. Majority (58.4%) of participants were females. Most (58.3%) of female respondents had poor knowledge on sexual violence and 63.8% had accepting attitude towards sexual violence. Those who were married were significantly more likely to have good knowledge on sexual violence compared to divorced/separated group (AOR=1.562 (95%CI: 1.087-2.245). Sex of respondents, age, marital status and level of education were associated with knowledge and attitude towards sexual violence.
Conclusions: Our study showed that these rural communities have poor knowledge on sexual violence and accepting attitudes towards sexual violence. Knowledge and attitude towards sexual violence is correlated with socio-demographic characteristics.

105. Title: Contextual factors of Youth Experiencing Violent Death in Dar es Salaam, Tanzania

Author(s): Outwater A[1], Campbell J[2], Mgaya E[3]

Institutions:
[1] Muhimbili University of Health and Allied Sciences School of Nursing
[2]Johns Hopkins University, School of Nursing
[3] Muhimbili University of Health and Allied Sciences, School of Medicine

Background: Between 2000 and 2010 in Dar es Salaam region (DSM) about 3500 people died from homicide (including assault, lynching and vigilantism). Of these, about 2000 deaths occurred as a result of community violence, 87% of which were related to theft, robbery, and burglary.
Objective: Describe contextual factors of those who experienced or were at risk for homicide death.

Methods: The study was descriptive and cross-sectional. Mixed methods were used. This report is based primarily on indepth interviews and focus group discussion.Questions asked were: Tell me about the deceased. Or Tell us about your life.Quantitative data from surveillance questionnaires and a household surveys illuminate the qualitative data. The site of most interviews was Muhimbili National Hospital (MNH) Mortuary when relatives came to pick up the bodies of the homicide deceased. Qualitative data were analyzed in NVivo 9.
Results: Of 43 nodes, 8 are being reported here, chosen because they were among the largest describing the context in which the subjects lived. During their childhood, the respondents experienced cash poverty,illness leading to death of parents,and lack of education. They arrived at youthhood with a belief in God, family responsibilities, and desires. The situation they met was an almost complete lack of employment, amidst an economy with an active market for stolen goods.
Discussion: The youth who were being killed by community mobs for thieving, were attempting to navigate their way to a stable adulthood. Being uneducated, unskilled, and from impoverished backgrounds they were ill-equipped to meet the challenges. The most lucrative sector accessible to them was thieving. The most common target was cell phones. This sector is sustained by the middle class who benefit by being able to buy expensive cell phones at minimal cost. The corporations also gain since phones sales increase.
Conclusion: Youth are set on a path of petty theft by the contexts in which they live. Their dangerous acts benefit the corporate and middle classes.

106. Title: Institutional Research Ethics Committees (IRECs) in Tanzania: The current status at health research institutions

Author(s): Ikingura J[1], Temu M[2]

Institutions:
[1]Secretariat, NatHREC, National Institute for Medical Research, Dar es Salaam
[2]Secretariat, Lake Zone REC, NIMR Mwanza

Background: Officially recognized regulations, guidelines, rules, SOPs; A system of well functioning RECs; Ethics training for researchers, members of RECs; and a system of oversight and monitoring are essential in establishing an effective research ethics infrastructure.
In Tanzania, there are ten regulations for coordination of health research, stipulated in NIMR Act No 23 of 1979, NIMR Act amendment in 1997. The National Health Research Ethics Committee (NatHREC) Established in 2002, has a system of functioning Institutional RECs. NatHREC has organized research ethics training for researchers and members of IRECs and has developed Standard Operating Procedures (SOPs) that guide establishment and operations of the Institutional RECs.
Objective: To report the progress of establishment of Institutional RECs, and their operations, in relation to supporting the functions of the National Committee.
Methods: Data collection was in June 2013, through a structured questionnaire that was administered through physical visits to the Institutions. Sampling was purposive, where only Institutions that had operating RECs were visited thus responded to the Questionnaire.
Findings: Ten RECs were covered, but responses were obtained from 80% (N=8) of the total

sample. Out of the eight covered ones, 50% (n=4) were based at private institutions, the rest were public institutions.
Conclusion: RECs in Tanzania are operating in the National ethical review framework. The committees are active and performing their functions, but with limitations. There is networking willingness, and what they need is an enhanced communication system where a two way communication will be possible. It was noted that RECs acknowledges and are aware of the national advisory role played by the NatHREC, and are supportive of the ethical review system in Tanzania.

107. Title: Living conditions in the slums of Kisumu, Kenya: Challenges and Opportunities for Sustainability.

Author(s): Simiyu, S[1].

Institution:
[1]School of Public Leadership, Stellenbosch University, Private Bag X1, Matieland 7602 South Africa
Background: Slum settlements are a common occurrence in Africa and the developing world. Each of these exhibit varied living conditions, which influence the lives of its dwellers, including their health status. Achieving Sustainable Development in these settlements thus calls for an understanding of these varied and different living conditions.
Aim: Based on the living conditions framework, the aim of this study was to understand living conditions in the slums of Kisumu, Kenya, as a first step towards identifying opportunities for sustainable Development.
Methods: This research employed qualitative methods to understand living conditions. These were participatory methods that included transect walks, interviews with stakeholders, informal conversations with slum residents, and ethnographic approaches. Qualitative data was analysed in a thematic approach, based on the living conditions framework.
Results: The main dimensions of the framework (land tenure, infrastructure, housing unit quality and neighbourhood locations) were represented in the slums of Kisumu, but these interact in a complex mix and have an overall effect on health and wellbeing of Kisumu's slum residents. Consequently, this led to a modification of the framework in order to comprehensively study living conditions.

Conclusions: Slums are significant settlements for the increasing urban population. It is important to understand the complex world in these slums in order to identify challenges and opportunities for achievement of the post 2015 sustainable Development goals. Therefore, Sustainable Development programs need to be packaged differently to suit each slum settlement.

108. Title: Youth unemployment, Community Violence,Creating Opportunities in DSM, TZ: A qualitative study

Author(s): Outwater A[1], Mgaya E[2], Msemo S[3], Helgesson L[4], Abraham A[5]

Institutions:
[1]School of Nursing, Muhimbili University of Health and Allied Sciences
Dar es Salaam, Tanzania,
[2]School of Medicine, Muhimbili University of Health and Allied Sciences
[3]Ministry of Natural Resources, Tanzania Forestry Service
[4]Development Pioneer Consultants, DSM
[5]Bloomberg School of Public Health, Johns Hopkins University

Background:Tanzania has been consistently shown in recent decades to have high overall crime rates. For example, Afrobarometer, a series of public opinion surveys, found that in 2012 Tanzanians reported higher rates of crime than people in all other African countries that were surveyed. Dar es Salaam has an unusually high amount of community violence. With over half of all homicides are due to lynching and vigilantism.
Aim: To characterize ways to design appropriate interventions to decrease homicides due to community violence.
Methodology: In-depth interviews and a focus group discussion were used. A 12-point WHO/CDC Injury Surveillance Questionnaire was adopted and used on randomly surveyed relatives of youth killed by community violence andyouths who had directly experienced community violence.Data were transcribed and analysed using o NVivo 9 software package.
Results: "Lack of employment" was the largest theme in terms of number of references and sources and is reported with "Business Ability". Occupational employment categories for uneducated youth in DSM are: formal employment, agriculture, petty business, day labor, stealing, begging, or leaving the country. Fisheries and forestry occupations are no longer viable. Stealing, begging and leaving the country occur when other options have failed. Suggestions for decreasing death by community violence fell into four categories, all to do with employment: employment creation, working with youth in groups, providing tools and a market, and a supportive environment for small enterprises.
Conclusions: New occupations have emerged such as commercial motorcyclists, which are decreasing unemployment related social problems like crime, promiscuity and drug abuse. However job opportunities for uneducated Tanzanian youth are inadequate and combined with poor business ability are leading to high rates of petty theft and the resulting community violence. More productive occupations are needed, including the revivification of traditional resource based industries such as fisheries and forestry. To optimize their potential effectiveness, rigorous experimental research should be conducted, to facilitate humane, equitable, and environmentally sound scale up of youth employment opportunities.

THURSDAY, 15th – MAY, 2014, 11:40 – 13:10
PARALLEL SESSION: MKAPA HALL 2
THEME: TRANSLATING HEALTH RESEARCH FINDINGS INTO POLICY AND PRACTICES - 4

109. Title: Evidence of continued transmission of Wuchereria bancrofti despite nine rounds of Ivermectin and Albendazole mass drug administration in Rufiji district, Tanzania.

Author(s): Jones C[1, 3], Tarimo D[1,] Malecela M[2,]

Institutions:
[1]Department of Parasitology / Medical Entomology, Muhimbili University of Health & Allied Sciences, Dar es Salaam, Tanzania.
[2]National Institute of Medical Research, Dar es Salaam, Tanzania
[3] College of Health Sciences, University of Dodoma, Dodoma, Tanzania

Background: In most sub-Saharan Africacountries, the National Lymphatic Filariasis Elimination Programme (NLFEP)is based on annual mass drugadministration (MDA) with Ivermectin and Albendazole. In order to interrupt transmission, 4–6 rounds of MDA are required with at least 60–70% minimum effective coverage. Children born since the MDA began are recommended for assessing interruption of transmission. We present findings of LF transmission status after 9repeated MDA rounds as implemented by the TanzanianNLFEP in Rufiji district and associated programmatic factors.

Methods: A cross sectional survey of 270 heads of household was carried out to assessMDA coverage and programmatic factors that influence MDA uptake. Status of LF transmission was assessed by measuring *W.bancrofti* circulating filarial antigens (CFA) in blood samples from413 standard one pupils(6 – 9 years) using ICT cards.Parents or guardians were interviewed on behalf of the pupils about their participation in MDAs.

Results A total of 413 standard one pupils were tested for CFA; 59 (14.3%) hadCFA. Two thirds (66.8%) of children did not participate in 2011 MDA round. Prevalence ofCFA was significantly lower in younger (6.4%) than older children (40.4%)($P < 0.05$).Participation in the last (2011) MDA did not significantly change the prevalence *W.bancrofti* CFA ($\chi 2 = 0.723$, $P = 0.4$).The recorded MDA coverage for 5 years including 2011 was above the 60 – 70 % minimum effective coverage. The community reported coverage was 40.4% for last MDA (2011), for previous MDAs was 53.0%; being far below the minimum effective coverage. Though the large majority of households (97.0%) had heard of LF, only about half (57.0%) knew it was transmitted by mosquitoes. Less than a half(43.6%) of householdswere aware of the adverse effects of LF,therefore motivated to participate in MDAs.

Conclusion:LF transmission has continued despitenine rounds of MDA.Low compliance to MDAs due to community and programmatic factors were responsible for the continued LF transmission. Detailed studies are required to establish LF transmission dynamics and the programmatic factors associated with MDA implementation in the area.

110. Title: Epidemiology of intestinal schistosomiasis in selected localities along the shores of Lake Tanganyika, Tanzania

Author(s): Bakuza J

Institution:
Department of Physics, Mathematics and Informatics, Dar es Salaam University College of Education

Background: Intestinal schistosomiasis due to Schistosoma mansoni poses a major public health problem in Tanzania. Despite that, its distribution and transmission risk factors are not well known, particularly in the country's western areas.
Objectives: This study was initiated to: 1) determine the current infection levels of S. mansoni in Gombe National Park and the neighboring villages of Mwamgongo, Bugamba, Kiziba and Mtanga; and 2) relate the infection prevalence and intensity to locality, host sex and age.
Methods: Between January and September 2010, stool samples were collected from 235 children and 171 adults and examined for parasite ova using the Kato-Katz technique.
Results: S. mansoni infection was recorded at an overall prevalence of 45% across study sites, ranging from 19% at Mtanga to 68% at Mwamgongo. The mean intensity was 18 eggs per Kato Katz slide, ranging from 1 to 225 eggs and a median of 8 eggs. Generalized Linear Models were used to analyze parasite data, applying binomial distribution models for prevalence and Zero-inflated negative binomial (ZINB) for intensity. A hierarchical analysis for the best fitting model indicated that host sex did not influence infection variation, while age and site interacted strongly. The analysis showed significant variation of S. mansoni prevalence between age groups, which also depended on site. ZINB analysis results showed also that egg counts significantly varied between age groups and across study sites.
Conclusion: These findings indicate a high infection of intestinal schistosomiasis in the study area, suggesting that the distribution of the disease in the country could be more widespread than previously thought. They also confirm that the infection of intestinal schistosomiasis in the area is focal, with marked variations between adjacent villages.

111. Title: Impact of Praziquantel mass drug administration campaign on prevalence and intensity of Schistosoma haemamtobium among schoolchildren in Bahi district, Tanzania

Author(s): Chaula S[1] & Tarimo D[2]

Institutions:
[1]Department of Biomedical Sciences School of Medicine University of Dodoma
[2]Department of Parasitology / Medical Entomology School of Public Health & Social Sciences Muhimbili University of Health & Allied Sciences

Background: As part of the Tanzania National Schistosomiasis Control Programme,Bahi districtin central Tanzania**,** received two annual rounds of Praziquantel mass drug administration (MDA) to control urinary schistosomiasis in schoolchildren. This study assessed (i) the impact of the two rounds of MDA on prevalence and intensity of *S. haemamtobium* and (ii) the impact of MDA campaigns on knowledge of urinary schistosomiasis, safe water use and contact with potentially unsafe water bodies.
Methods: A quantitative cross-sectional study was carried out among schoolchildren in March and April, 2013. A structured questionnaire was used to collect information on MDA uptake, knowledge of schistosomiasis, sources of water for domestic and other uses. Urine samples were collected from each pupil to examine prevalence and intensity of *S.haematobium*. Transmission of schistosomiasis was assessed by sampling *Bulinus* spps snails for cercarial shedding.

Results: Uptake of MDA was 39.5% in 2011 and 43.6% in 2012. Prevalence of *S. haematobium* significantly dropped by 50.0% from 26% in 2011 to 15% in 2012 ($p = 0.000$). Prevalence of *S. haematobium* was significantly low in MDA participating (3.1%) than non-participating (28.5%) schoolchildren ($p = 0.000$). MDA campaigns had significant impact on knowledge of the disease ($p = 0.02$) and borderline impact on safe water use ($p = 0.04$) but had no impact on avoidance of contact with unsafe water bodies ($p = 0.06$). *Bulinus* spps snails were found shedding schistosome cercariae indicating environmental contamination with viable *S. haematobium* eggs.
Conclusion: ThoughMDA significantly reduced prevalence of *S. haematobium*, uptake was below 50.0% and below the World Health Assembly resolution 54.19 target of 75.0% for 2010. Non-participation in MDA was the likely source of *S. haematobium* eggs in the environment hence the observed 15.0% prevalence of *S.haematobium* infection; and cercarial shedding *Bulinus spps* snails indicating continuity of transmission hence the need for further health promotion campaigns.

THURSDAY, 15th – MAY, 2014, 14:10 – 15:00
PARALLEL SESSION: MKAPA HALL 2
THEME: BASIC RESEARCH IN HEALTH ISSUES

112. Title: Comparison of the Effects of Extracts From Three Vitex Plant Species on Anopheles Gambiae S.S. (Diptera: Culicidae) Larvae

Author(s): Nyamoita M.[a, b,c], Ester I[a], Zakaria M[a], Wilber L[b], Bwire O [b], Ahmed H[d]

Institution:
[a] Muhimbili University of Health and Allied Sciences, Institute of Traditional Medicine, Dar es Salaam, Tanzania:
[b]International Centre of Insect Physiology and Ecology, Bio-prospecting Unit, Nairobi, Kenya:
[c]Kenyatta University, Department of Pharmacy and Complementary/Alternative Medicine: Nairobi, Kenya
[d]Kenyatta University, Department of Chemistry, Nairobi, Kenya

Method: Acetone and methanol extracts of different parts of three *Vitex* species (leaves and stem bark of *Vitex trifolia,* leaves, stem bark and root bark of *Vitex schiliebenii* and stem and root bark of *Vitex payos*) were evaluated for their potential to control *Anopheles gambiae* Giles s.s. larvae (Diptera: Culicidae).
Results: The extracts gave different levels and rate of mortality of the larvae. Some (methanol extract of *V. trifolia* leaves, acetone extracts of stem bark and leaves of *V. schiliebenii,* acetone extract of root bark of *V. payos*) caused 100% mortality at 100 ppm in 72 hours, with those of *V. schiliebenii and V. payos* showing faster rate of mortality (LT_{50}=8 h) than that of *V. trifolia* (LT_{50}=14 h).At lower doses of these extracts ($\leq$ 50 ppm), most of the larvae failed to transform to normal pupae but gave larval-pupal intermediates between 4-14 days of exposure. Some pupated normally but the adults that emerged appeared to be weak and died within 48 hours. Extracts of the stem bark of *V. payos* showed interesting effects on the larvae. Initially, the larvae were relatively hyperactive compared to those in control treatments. Later, the ones that did not transform to larval-pupal intermediates became stretched and inactive and died and floated in clusters on the surface.

Conclusion: These observations suggest some interesting growth-disrupting constituents in the plants, with possible application in the practical control of mosquito larvae in aquatic ecosystems.

113. Title: Biologically Important Mammea-type Coumarin Compounds from Mammea usambarensis Verdc.

Author(s): Magadula J[1*], Masimba P[1], Tarimo R[1], Msengwa Z[1], Mbwambo Z[1], Heydenreich M[2], Breard D[3], Richomme P[3]

Institutions:
[1]Institute of Traditional Medicine, Muhimbili University of Health and Allied Sciences, P.O. Box 65001, Dar es Salaam, Tanzania.
[2]Institut fur Chemie, Universitat Potsdam, Postfach 601553, D-14415 Potsdam, Germany.
[3] SONAS-UFR Sciences Pharmaceutiques, 16 BdDaviers, F-49100 Angers, France.

Background*:* The genus *Mammea* is known to consist of about 70 species with the mainland Africa harboring only two species, namely *M. africana* and *M. usambarensis* (Janick and Paul, 2008). Many of the species of this genus *Mammea* are used in traditional medicine for the treatment of various diseases such fever, internal heat, stomach pains, scabies and microbial infections (Chapuis *et al.*, 1988). Furthermore, this genus is reported to produce bioactive mammea-type coumarins (Crombie *et al*, 1987).
Aim*:* This work aims to investigate *M. usambarensis* for its potential use as an antioxidant and antimicrobial plant. It is a tree endemic to Shagayu forest reserve in Lushoto district, Tanga region, where it is mainly valued for its edible fruits.
Methods*:* Field collection and both phytochemical and pharmacological laboratory works will be undertaken on the crude extracts and pure compounds.
Results*:* Ethnomedically, there is no report on the use this plant in traditional medicine. Our investigations of the stem bark and fruits resulted into the isolation of five (5) mammea-type coumarins that were fully identified by using both physical and advanced spectroscopic techniques. In addition, both crude extracts and pure compounds were screened for their antioxidant and antimicrobial activities. The antioxidant activity of the crude extract was observed to be twice as higher as that of the known standard compound.
Conclusion*:* Hence, the isolation, identification and biological activity of the crude extracts and the isolated secondary metabolites are reported herein.

114. Title: Documentation and Invitro Antimalarial Activity of Medicinal Plants used to treat Malaria in Tanzania

Author(s): Nondo R[1], Moshi M[1], Erasto P[2], Zofou D[3], Wanji S[4], Titanji V[3], Ngemenya M[3], Kidukuli A[1], Masimba P[1]

Institutions:
[1]Institute of Traditional Medicine, Muhimbili University of Health and Allied Sciences P.O.Box 65001, Dar es Salaam- Tanzania
[2]National Institute for Medical Research P.O.Box 9653, Dar es Salaam- Tanzania

[3]Biotechnology Unit, University of BUEA, P.O.Box 63 BUEA, South West Region, Cameroon
[4]Research Foundation in Tropical Diseases and Environment P.O.Box 474, BUEA, South West Region-Cameroon

Background: Tanzania is among the six African countries with many reported cases of malaria.Historically, medicinal plants traditionally used for treatment of malaria have been a good source for the development of modern antimalarial drugs. Because of the long history of the disease, the use of medicinal plants for treatment of malaria is very common in Tanzania, but the efficacy of some of these medicinal plants is not well studied.
Aim: To document ethnomedical information on plants used for treatment of malaria followed invitro evaluation against chloroquine sensitive and chloroquine resistant *Plasmodium falciparum*.
Methods: Semi-structured questainnaires were used to collect ethnobotanical information in Six villages in Kagera region and one Village in Lindi region. . The plant materials of selected plant species were collected, extracted by 80% ethanol and the dry extracts evaluatedfor*in vitro* antimalarial activity using the parasite lactate dehydrogenase assay.
Results:A total of 108 medicinal plant species belonging to 41 plant families were identified and documented. These include trees (37%), herbs (34%), shrubs (20%), climbers (5%), grass (2%) and wood climbers (2%). Out of 46 crude extracts from 34 plant species screened for *in vitro* antimalarial activity, 28% inhibited chloroquine-sensitive *Plasmodium falciparum* 3D7 and 48% inhibited chloroquine-resistant *P. falciparum* Dd2 strains by ≥50%.
Conclusion: Results from the *in vitro* antimalarial study support traditional uses of some of the 34 plant species screened, but their safety needs to be established. Among these some plants have been selectedfor further studies leading to isolation and identification of active antimalarial compounds.

THURSDAY, 15th – MAY, 2014, 14:10 – 15:00
PARALLEL SESSION: MKAPA HALL 2
THEME: BASIC RESEARCH IN HEALTH ISSUES

115. Title: Investigating the determinants of Efavirenz pharmacokinetics after long term treatment with and without rifampicin among Tanzanian HIV/TB and HIV patients

Author(s): Kitabi E[1], Minzi O[1], Mugusi S[2], Sasi P[2,] Janabi M[3], Mugusi F[4], Bertilsson L[5], Aklillu E[5], Burhenne J[5]

Institutions:
[1]Unit of Pharmacology and Therapeutics, [2]Department of Pharmacology, and [4] Department of Internal Medicine Muhimbili University of Health and Allied Sciences
[3] Muhimbili National Hospital University of Health and Allied Sciences
[5] Karolinska Institutet, Stockholm, Sweden.

Background: The extent of pharmacokinetic interaction between rifampicin and efavirenz is still uncertain.
Aim: We investigated the determinants of efavirenz pharmacokinetics after long term antiretroviral therapy (ART) with and without rifampicin co-treatment.

Methods: We recruited patients on efavirenz based ART alone (arm1, n=20) and patients on efavirenz/rifampicin based HIV/Tuberculosis co-treatment (arm2, n=34). Intensive blood sampling (at around 0, 1, 3, 6, 12, 16 and 24 hours after taking efavirenz) was performed 16 weeks after initiation of ART and repeated in arm2 patients (n=31) 8 weeks after completion of Tuberculosis treatment. Data were analyzed by nonlinear mixed effects modelling. Treatment arms, sampling occasions, demography, clinical, laboratory and single nucleotide polymorphisms data were tested as potential covariates for the model parameters.
Results: The patients had median age and weight of 42 years (IQR, 36-50) and 48 Kilograms (IQR, 43-60) respectively. The proportion of CYP2B6*1/*1 and CYP2B6*6/*6 genotypes were 38.2% and 23% respectively. Efavirenz pharmacokinetics was described by 1 compartment model. The estimated population values for absorption rate constant (Ka) and apparent volume of distribution (V/F) were $1.5h^{-1}$ (95%CI, 0.9-2.1) and 696L/70Kg (95%CI, 551-841) respectively. CYP2B6 genetic polymorphism was the only determinant of efavirenz oral clearance (CL/F) being highest in patients with CYP2B6*1/*1 genotype (22.8 L/h/70kg; 95%CI, 16.4-29.2) and 58% (95%CI, 41-75) lower in patients with CYP2B6*6/*6 genotypes. Regardless of genotype, the ratio of efavirenz clearance, arm1 to arm2, during and after co-treatment were 1.2 (95%CI, 0.80 -1.60) and 1.1(95%CI, 0.76-1.46) respectively.
Conclusion: Our results support the hypothesis that after long term efavirenz treatment the magnitude of its auto induction of metabolism and cellular transport is comparable to that due efavirenz/rifampicin co-treatment. The CYP2B6 genetic polymorphism but not rifampicin co-treatment should be taken into account when adjusting for efavirenz dosage during both ART and HIV/TB co treatment.

116. Title: Optimization of dissolution sink conditions for Efavirenz 600 mg in tablet.

Author(s): Shedafa R[1, 2], Manyanga V[1,2] Sempombe J[1], Kaale E[1,2], Haefele C[3]

Institutions:
[1]Medicinal Chemistry Department, Muhimbili University of Health and Allied Sciences, Tanzania
[2] Pharm R&D Laboratory, Muhimbili University of Health and Allied Sciences, Tanzania,
[3]Action medeor, Germany

Background: When developing dissolution procedure, one goal is to have sink conditions, thus the volume of medium at least three times that required in order to form a saturated solution of drug substance. When sink conditions are present, it is more likely that dissolution results will reflect the properties of the dosage form. For drug substances that exhibit low solubility in aqueous media throughout the pH range, the addition of surfactants is recommended due to their physiological role in solubilizing drugs in vivo and in this study SDS was used.
Objective: The study was targeting to optimize the dissolution medium conditions of SDS that was used to release Efavirenz 600mg in tablets.
Methodology: Different amounts of SDS ranging from 0.1% ,0.5%,1%,1.5% to 2% SDS were used to determine the optimal release of Efavirenz with a paddle method at 50 rpm and a temperature of 37°C. Optimization of Efavirenz release in different concentrations of SDS was preceded by determining the sink conditions of efavirenz in different concentrations of SDS.

Results: More than 80% at 45 minutes release of Efavirenz 600mg was achieved by using 1% SDS and the saturation solubility concentration was 2.44 mg/L which was enough to release efavirenz in present dosage form.
Conclusion: The optimized sink conditions for Efavirenz 600 mg Tablets reduces the usage of SDS from 2% to 1% which also reduces operational costs.

117. Title: A Quantitave near Infrared Spectroscopy Model For Assessment of Efavirenz In Tablets

Author(s): Mugoyela G[1], Sempombe J[2] , Kilulya K, Chambuso M[2], Mugoyela V[2], Kaale E[2].

Institutions:
[1]Tanzania Food and Drug authority
[2]Pharm R & D Laboratory-School of Pharmacy-MUHAS Dar es salaam-Tanzania

Background: Near-infrared-spectroscopy (NIRS) combined with multivariate data analysis (MVDA) represents the most recent and efficient technology in analytical Chemistry. The method has been proven to be simple, fast and suitable for quantitative assessment of efavirenz in efavirenz uncoated tablets.
Objective: The main objective of the study was to utilize near infrared spectroscopy as an adapted technology for quantitative assessment of efavirenz. The study specifically developed and validated a quantitative model for estimating amount of efavirenz in efavirenz uncoated tablets.
Methods: The active principle (efavirenz) was quantified with partial least-square algorithm and constructed by cross-validation. Ultra-Violet (UV) spectrophotometric procedure was used as a reference method. Different pre-processing methods were used for development of calibration models.
Results: The best calibration model was found when partial least square (PLS) was used as regression algorithm in association with Multiplicative Scattering Correction as pre-processing spectrum method. The model estimators were as follows; coefficient of determination (R^2) was 0.9815, standard error of cross validation (SECV) was 2.0346 and a factor of 5. The chosen model correlated well with the prediction results in accordance with the Mahalabinos distance (M-dist.) limits.
Conclusion: The developed NIR method allows the estimation of amount of efavirenz in tablet form without sample preparation. Hence, NIR coupled with chemometric methods can be used for *on line, in line or at line monitoring* of the manufacturing process and are helpful in achieving the goals of the Process Analytical Technology (PAT).

WEDNESDAY, 14th – MAY, 2014, 14:10 – 15:00
PARALLEL SESSION: MANDELA
THEME: BASIC RESEARCH IN HEALTH ISSUES

118. Title: Physical and Microbial Contaminants of Cattle Slaughtering Sites: Implications to Human health in Rural Tabora, Tanzania

Author(s): Bagarama F[1], Maganga M[2]

Institution:
[1]Tumbi Agricultural Research Institute, Tabora, Tanzania;
[2]Medard Maganga, Kitete Government Hospital, Tabora, Tanzania

Background: Animal products, including carcasses and fresh meat are easily contaminated with microorganisms and support their growth particularly among resource poor communities that ill-equipped with both storage and processing facilities
Objective: To assess potential contaminants of meat under slaughtering grounds in the resource poor communities in rural areas.
Methods: Five local slaughtering sites around Tumbi Agricultural Research Institute were visitedduring the dry season in June through October 2013. Identification of tree species under which cattle were slaughtered was done. A five meter by five meter area was demarcated to include the area of accumulation of blood and cattle dung and different physical contaminants of meat. Potential meat contaminants found in the demarcated area were recorded. composite soil samples was collected under disposed cattle dung found in the demarcated slaughter site. Bacterial isolates were cultured and isolated from samples using routine microbiological culture techniques.
Results: The majority of the cattle are slaughtered under poor hygienic conditions mostly under trees of the species Syzygium *guineense*; *Brachystegia ssp*; and *Mangiferaindica*. Nine physical contaminants of meat were identified in slaughtering sites including; cattle dung, leaf litter, dry tree twigs, cow blood, Confidor 80WP (insecticide) packets, ants and human excreta. The mean viable bacterial count was 3.38cfu/cm^2. The main bacterial species isolated were, S. aureues (15%), Pseudomonas sps (12%), Bacillus sps (9%), Klebsiella sps (10.2%), Ecoli (8.9%) and Salmonella sps (3%).
Conclusion: Cattle are slaughtered under poor hygienic conditions, which may lead to the contamination of meat products with known bacterial food pathogens that can lead to outbreaks of food poising. There is thus the need to urgently educate rural communities about hygienic slaughtering practices.

119. Title: Factor Affecting Multi-sectoral Collaboration Response to Rift Valley Fever Outbreak in Kongwa District

Author(s): Rama E[1*], Mangi E[2*],Lupeja R[3], Moshiro C[4]

Institutions:
[1]Research and Policy Department, Environzine Africa, Dar es salaam, Tanzania
[2]Department of Behavioural Sciences, Muhimbili University of Health and Allied Sciences, Dar es Salaam, Tanzania
[3]Health Department, Kongwa District Council, Dodoma, Tanzania
[4]Department of Epidemiology and Biostatistics, Muhimbili University of Health and Allied Sciences, Dar es Salaam, Tanzania

Background: Rift Valley Fever (RVF) is a viral haemorrhagic, viral infection, with fatal effects to animals and human beings as well resulting to significant mortality and economic loss. A strategic approach for effective RVF outbreaks preparedness and response is through combined participatory approach in Multisectoral collaboration.
Aim: The aim to examine factors affecting multi-sectoral collaboration response to Rift Valley Fever outbreak among the District and Ward officials in Kongwa District
Methods: A qualitative study that applied phenomenological approach was conducted among the representatives in the Disaster Management Unit in the Prime Minister's Office, the Emergency

Preparedness and Response section in the Ministry of Health and Social Welfare and the Ministry of Livestock and Fisheries Development, the Dodoma region, district, ward and farmers' association representatives in Kongwa district in April, 2013. A total of 15 representatives were purposively recruited in the study, 13 male and 2 female key informants. An interview guide was used to collect data. Purposive sampling was used to select representatives with technical knowhow, knowledge and experience in relation with Rift Valley Fever outbreak. Interview transcripts were subjected to thematic content analysis.
Results: This study found several factors facilitating weak and uncoordinated multisectoral collaboration to include lack of emergency funds, inadequate resources, lack of awareness of health and veterinary departments on the existing plans and guidelines on Rift Valley Fever. As a result of there is poor preparedness and response infrastructure in Tanzania.
Conclusion: The zoonotic nature of RVF calls for a multisectoral collaboration in disease surveillance, detection, reporting and timely response.

120. Title: Experiences in Recruiting Youths into TaMoVac-01 HIV Vaccine Trial at MUHAS

Author(s): Massawa T, Niima D, Swaleh A, Munseri P, Bakari M, Mhalu F

Institution:
TaMoVac Project,Muhimbili University of Health and Allied Sciences, Tanzania

Background: Following successful conduct of the HIVIS-03 HIV vaccine trial conducted between February 2007 and February 2010, which recruited Police Officers, a second phase I/II HIV TaMoVac-01 vaccine trial recruited participants from the Police force, Prisons force as well as youths at the IDC bearing in mind that youths are most hit by HIV
Methods: Sensitization meetings were conducted at the IDC youths clinic. Subsequently Prescreening workshops were conducted at the clinical site at MNH. Participants who showed interest in volunteering in the trial were asked to come for screening at the clinic located at Muhimbili National Hospital.
Results: A total of 200 youth attended the briefing at IDC sensitization meetings. Of these, 110 (55%) attended the pre-screening workshops. Of these, 69 (63%) were screened at the clinic. Eventually 25 youths, of whom females were 20 (80%), were enrolled. The median age was 21 years, range 19-24 years. Recruitment of these youths spanned over 12 months.Challenges encountered included the initial inability for youths to make independent decisions, which later improved after the parents/guardians informed. While in the trial, 4/25 youths relocated in search of jobs which resulted into additional costs for the trial, and 2/20 female volunteers became pregnant during the study period.
Conclusion: Recruitment of youths in the HIV vaccine trial improved after the parents/guardians were well informed. Provision of reproductive health services as well as contraceptives is advised.

POSTERS PRESENTATION ABSTRACTS

THEME: MILLENNIUM GOALS BEYOND 2015

121. Title: Utilization of the Early Infant Diagnosis of HIV Infection and Associated Factors in Coast Region, Tanzania

Author(s): Gamaliel J[1], Aboud S[2]

Institutions:
Departments of [1]Epidemiology and Biostatistics,
[2]Microbiology and Immunology, Muhimbili University of Health and Allied Sciences, P.O. Box 65001, Dar es Salaam, Tanzania.

Background: Early infant diagnosis (EID) of HIV infection provides the opportunity for identifying, follow up and testing for HIV-exposed infants. In Tanzania, despite availability of EID HIV infection testing services, many children are left undiagnosed or diagnosed late that resulted to increased childhood HIV related mortalities.
Aims: To determine magnitude and factors influencing utilization of EID among HIV-exposed infants.
Methodology: A cross-sectional study was conducted in Kibaha and Bagamoyo districts in Coast region involving all HIV-exposed infants aged between 4 weeks to 18 months born live to HIV-infected mothers. Data were collected through interviewing mothers/guardians of HEI using a structured questionnaire, CTC cards were used to countercheck linkage to CTC. A checklist was used to collect data specific for health facilities through interview of health care providers and observation. Data were entered into Epidata version 3.1 analysed by Stata software 12.1. Analysis for predictors was done using univariate and multivariate logistic regression where p value of <0.05 was considered as statistically significant.
Results: A total of 238 parents/guardians of HIV-exposed infants/children from five (5) facilities in Coast region were involved in the study. The HIV testing among HIV-exposed infants within the health care facility was 87%. The prevalence of HIV infection among HIV-exposed infants was 13%. All facilities had facilities for EID of HIV, trained human resources and a system of identification of HIV-exposed infants. In univariate analysis, early HIV testing during pregnancy, PMTCT ARV prophylaxis, disclosure of HIV status, enrollment to CTC, and frequent attendance to EID services, co-trimoxazole prophylaxis and exclusive breast feeding were found to be significant predictors for testing of HIV-exposed infants. In multivariate analysis, monthly attendance to HIV EID clinic was independent significant predictor (AOR 2100, 95% CI, 3.3 -1314904 p<0.05) for testing of HIV-exposed infants.
Conclusions: Monthly attendance to HIV EID clinic predicted significantly the testing among HIV-exposed infants.

122. Title: Do you know the situation of nutritional assessment in People Living with HIV?

Author(s): Malale D[1,] Gwassa S[1], Hasegawa A[2],Tanaka A[2]

Institutions:
[1] Health department, Kongwa District Council, Dodoma
[2]Japan International Cooperation Agency, Tokyo, Japan

Background: The Ready to Use Therapeutic Food (RUTF) Programme commenced in Kongwa District Hospital through Tanzania Food and Nutrition Centre with the support of Global Fund in August 2011. It targets under 5 years children severely malnourished and people living with HIV (PLHIV).
Aim: To clarify practical methods applied in the hospital to assess nutritional status in PLHIV, especially adults who are above 20 years old.
Methods: We collected 208 data of the subjects from 251 of all ages that were routinely collected in RUTF register from August 2011 to April 2014, and reviewed their anthropometric values, including weight, height, body mass index (BMI) and mid upper arm circumference (MUAC). We calculated BMI for those who were missing the values, and compared the results of nutritional status using BMI and MUAC.
Results: The values of weight were available for 187 (89.9%), height for 96 (46.2%), BMI for 0 (0%), and MUAC for 206 (99.0%). The subjects measured all for weight, height, and MUAC were 94 (45.2%). Of those 94 subjects, 29 (30.9%) were not evaluated as malnutrition by BMI. Of 40 subjects who were evaluated as severe malnutrition by BMI, 26 (65.0%) were evaluated as moderate malnutrition by MUAC.
Conclusions: BMI is recommended to assess nutritional status in adults including PLHIV. This study also supports the recommendation. A risk is high to miss out severe malnutrition by MUAC due to the low sensitivity, compared with BMI. We suggest replacing MUAC with BMI to assess nutritional status in adults of PLHIV through the familiarization of BMI chart to the staff as the first step. Furthermore, in reality where we depend only on anthropometric values to assess nutritional status in Kongwa District Hospital, it is essential to conduct assessments completely and accurately every time for all the clients.

123. Title: A Late Third HIV-MVA Vaccination Boosted Strong and Potent Immune Responses in Tanzanian Volunteers Previously Immunized with HIV-DNA and HIV-MVA

Author(s): Joachim A[1a,2], Munseri P[1b,3], Nilsson C[2,4],Bakari M[1b], Aboud S[1a], Lyamuya E[1a], Moshiro C[1c], Robb M[6], Marovich M[7], Earl P[8], Moss B[8], Buma D[5b], Janabi M[5a], Wahren B[2], Mhalu F[1a], Ferrari G[9], Sandstrom E[3], Biberfeld G[2,4].

Institutions:
[1a]Departments of Microbiology and Immunology, [1b]Internal Medicine and [1c]Epidemiology and Biostatistics, Muhimbili University of Health and Allied Sciences (MUHAS), Dar es Salaam, Tanzania
[2]Department of Microbiology, Tumor and Cell Biology, Karolinska Institutet, Stockholm, Sweden.
[3]Venhalsan, Karolinska Institutet, Sodersjukhuset, Stockholm, Sweden.
[4]Swedish Institute for Communicable Disease Control (SMI), Solna, Sweden

[5a]Departments of Internal Medicine and [5b]Pharmacy, Muhimbili National Hospital (MNH), Dar es Salaam, Tanzania.
[6]The Henry M Jackson Foundation, Rockville, MD, US
[7] Walter Reed Army Institute of Research (WRAIR), Rockville, MD, US
[8]National Institute of Allergy and Infectious Diseases (NIAID)/National Institutes of Health (NIH), Bethesda, MD, USA
[9]Department of Surgery, Duke University Medical Center, Durham, North Carolina

Background: A successful vaccine against HIV requires effective and long-lasting cellular and humoral immune responses. It's still uncertain on how long vaccine induced immunity lasts and how best the immunity can be sustained.
Aim: To explore the duration of immune responses and the effect of a third HIV-modified vaccinia Ankara (MVA) boost in HIV-DNA and HIV-MVA vaccinees.
Method: Twenty healthy volunteers previously primed with HIV-DNA plasmids encoding HIV-1 subtypes A, B, and C at months 0, 1 and 3 and boosted with HIV-MVA expressing CRF01_AE at months 9 and 21 were given a third HIV-MVA boost three years after the 2nd HIV-MVA. Samples were tested before and at 2-4 weeks post the 3rd HIV-MVA boost. Cellular responses were assessed using IFN-γ ELISpot and lymphoproliferation assay (LPA). Binding antibodies to gp140 were tested by enzyme-linked immunosorbent assay. Antibody-dependent cellular cytotoxicity (ADCC) antibodies were tested using HIV-1 recombinant gp120-coated and infected cells. Anti-vaccinia neutralizing antibodies were determined by plaque-reduction assay.
Method: Three years after the 2nd HIV-MVA, 15/19 (79%) vaccinees had IFN-γ ELISpot responses, 11 (58%) to Gag and 6 (32%) to Env. Two weeks after the 3rd HIV-MVA, 19/20 (95%) vaccinees had IFN-γ ELISpot responses, 17 (85%) to Gag and 16 (80%) to Env whereas 15/16 (94%) had positive LPA response. Binding antibody to gp140 subtype C titers were significantly higher after the third HIV-MVA p=0.001. ADCC responses to subtype-E gp120-coated cells were detected in 16/19 (84%) vaccinees before and in 18/19 (95%) after the 3rd HIV-MVA where 14/20 (70%) vaccinees had ADCC activity to CM235 infected cells. Anti-vaccinia neutralizing antibodies were detected in all vaccinees before the 3rd HIV-MVA.
Conclusion: Anti-HIV immune responses were detectable three years after the 2nd HIV-MVA immunization.A late third HIV-MVA vaccination boosted strong and potent anti-HIV cellular and humoral immune responses in previously HIV-DNA and HIV-MVA immunized volunteers despite pre-existing immunity to vaccinia.

124. Title: Prevalence and predictors of HIV infection among adults aged 50 years and above in Shinyanga, Iringa and Ruvuma regions of Tanzania

Author(s): Mangi E[1], Nyamhaggatta M[2], Lwezaula S[3]& Moshiro C[4]

Institutions:
[1]Department of Behavioral Sciences, Muhimbili University of Health and Allied Sciences, Dar es Salaam, Tanzania
[2] Bunda District Hospital, Mara
[3]National AIDS Control Programme, Dar es Salaam Tanzania

4Department of Epidemiology and Biostatistics, Muhimbili University of Health and Allied Sciences, Dar es Salaam, Tanzania

Background: The UNAIDS 2013 UNAIDS Report on the global AIDS epidemic and aging reveals that out of the global total of 35.3 million [32.2 million – 38.8 million] people living with HIV, an estimated 3.6 million [3.2 million–3.9 million] are people aged 50 years or older. Unfortunately, there is paucity of information in Tanzania to explain various factors associated with increasing HIV infection in adults aged more than 50 years. We conducted a cross sectional study in Shinyanga, Iringa and Ruvuma regions to determine the prevalence and risk factors of HIV infection among adults aged 50 years and above.
Methods: A sample of 2215 participants was recruited using multistage cluster sampling. HIV testing for consenting individuals was conducted and a structured questionnaire was used for collection of data on socio-demographic information, medical conditions and sexual behavioral factors. In addition, focus group discussions explored various factors associated with HIV infection. HIV testing was done according to the National HIV Testing and counseling algorithm.
Results: The overall prevalence of HIV infection was 4.4% (95% CI=3.6-5.4). Results also reveal that the overall prevalence of HIV infection is higher among females compared to males in all three regions. Among males, HIV infection was higher in Iringa (5.0%) compared to Ruvuma (1.4%) and Shinyanga (3.8%). Similarly, the prevalence of HIV infection was 9.1%, 1.9% and 5.4% in Iringa, Ruvuma and Shinyanga regions. Majority of study participants were aware of HIV, its modes of transmission and prevention. Findings also indicated that level of education was not associated with risk of HIV infection.
Conclusion: The high prevalence of HIV among adults underscores the need for increased attention to underlying risk factors in the study regions. Perhaps there is a need to explore the secrecy and/or reluctance surrounding HIV status disclosure reported by respondents. The fact that a good number of adults reported to experience symptoms suggestive of TB highlights the potential risk for HIV-TB co- infection. Additional research is warranted to fully explain this reported trend.

125. Title: Treatment outcomes for uncomplicated malaria in HIV infected adults patients on anti-retroviral therapy treated with artemether-lumefantrine

Author(s): Maganda B, Minzi O, Kamuhabwa A, Ngasala B and Sasi P.

Institution:
Muhimbili University of Health and Allied Sciences, Dar es Salaam, Tanzania

Background: Malaria and HIV are common infections in sub-Saharan Africa. HIV infected patients receiving anti-retroviral therapy (ART) are more likely to be on anti-malarial drugs. Limited data are available on the effectiveness of artemether –lumefantrine combination (AL) when co-administered with anti-retroviral drugs as both are metabolized by CYP 450 system. Thus, this creates a potentiality of drug-drug interactions.
Aim: This study aimed to compare anti-malarial treatment responses between HIV-1 infected patients on either nevirapine (NVP-arm) or efavirenz (EFV-arm) based treatment and those not yet on ART with uncomplicated malaria, treated with AL.

Method: Prospective, non-randomized, open label study with three arms: EFV- arm n= 66, NVP-arm n= 128 and control arm n=75 conducted in Bagamoyo district. All patients were treated with AL and followed-up for 28 days. Primary outcome measure was the adequate clinical and parasitological response (ACPR) after treatment with AL.
Results: Day 28 un-corrected ACPR was 98%, 82.5% and 95 % for the NVP-arm, EFV-arm and control arm, respectively. No early treatment or late parasitological failure was reported. Late clinical failure during follow-up was observed in all the 3 arms. The cumulative risk of failure was >19-fold higher in the EFV-arm than in the control arm (Hazard ratio [HR], 19.11 [95% confidence interval {CI}, 10.5–34.5]; P< 0.01). The cumulative risk of failure in the NVP-arm was not significantly higher than in the control arm ([HR], 2.44 [95% {CI}, 0.79–7.6]; P= 0.53). Median lumefantrine concentrations on day 7 were 1,125ng/mL (258-5403), 300.4 ng/mL (82.2-835) and 970 ng/ml (108-2592) for the NVP-arm, EFV-arm and control arm, respectively.
Conclusion: After 28 days of follow-up, AL was safe and effective in the treatment of uncomplicated malaria in the NVP-arm. Results from this study also provide an indication of the possible clinical effect of EFV on the performance of AL and its likelihood to affect malaria treatment outcome.

126. Title: Seroprevalence of Hepatitis B and C Virus Infections and Associated Risk Factors among People Living With HIV and AIDS Attending Care and Treatment Centre in Morogoro, Tanzania

Author(s): Richard A[1], Mghamba J[3],Aboud S[2]
Institutions:
Departments of [1]Epidemiology and Biostatistics, and [2]Microbiology and Immunology, Muhimbili University of Health and Allied Sciences;
[3]Field Epidemiology and Laboratory Training Program, Ministry of Health and Social Welfare, Dar es Salaam, Tanzania.

Background: HIV changes the natural history of HBV and HCV resulting into increased mortality and morbidity in HIV co-infected individuals worldwide. In Tanzania the prevalence of HBV and HCV in HIV-infected patients ranges from 1.2 to 17.3% and 13.8 to 18.1% respectively.
Aims: To determine the seroprevalence and risks factors associated with HBV and HCV infections among people living with HIV and AIDS attending care and treatment centre in Morogoro Region, Tanzania.
Methods: This was a cross sectional study conducted at a Care and Treatment Centre in Morogoro, Tanzania, from November 2011 to February 2012. Questionnaire was administered to obtain socio-demographic characteristics and to assess risks factors. Blood samples were collected and tested for HBV (HBsAg, anti-HBcAb IgM and HBeAg) and anti-HCV antibodies. Bivariate logistic regression analysis was used to determine the association between the independent and dependent variables.
Results: A total of 428 HIV-infected adults were recruited, of which female were 349 (81.5%). The overall mean age was 38.9 ± (SD) 9.7 years. The overall seroprevalence of HBsAg, HBcIgM, HBeAg, anti-HCV antibodies and HBsAg/HCV antibodies were 4.9% (21/428), 0%, 0.7% (3/428), 4.0% (17/428) and 0.002% (1/428), respectively. History of imprisonment (adjusted OR 6.87, 95% CI 1.46-32.61) and unsafe injection (adjusted OR 14.34, 95% CI 4.38-

48.95) were independent predictors of HBsAg and tattooing (adjusted OR 7.13 95% CI 1.44-35.35), history of liver disease (adjusted OR 6, 95% CI 1.32-27.96) and history of imprisonment (adjusted OR 0.16, CI 0.0596-0.4509) were independent predictors of HCV.
Conclusions: Lower seroprevalence of HBV (4.9%) and HCV (4.0%) infection was found among HIV patients attending care and treatment centre in Morogoro. History of unsafe injection and imprisonment for HBV infection and tattooing and history of liver disease for HCV infection were found to be significant predictors, respectively.

THEME: BASIC RESEARCH IN HEALTH ISSUES

127. Title: Diagnostic Performance of Screening Methods for Urinary Schistosomiasis In A School- Based Antihelmithic Programme In Mbozi District Mbeya Region

Author(s): Kabululu H, Ngasala B, Daimon L

Institutution:
Department of Parasitology, Muhimbili University of Health and Allied Sciences

Background: Diagnostic performance of screening methods varies in different endemic zones, age groups and sexes especially when there is low prevalence.
Main Objective: To evaluate the diagnostic performance of screening methods for urinary schistosomiasis after wide scale use of praziquantel in a school based antihelminthic control programme in Mbozi District.
Methods: A cross-sectional study was conducted from March to June, 2013. A total of 429 participants from standard I – VII were chosen proportionally from twelve schools which were obtained through multistage cluster random sampling. The diagnostic performance of screening tests were compared with microscopic examination of urine for S. haematobium egg (filtration method, which was regarded as the gold standard)
Results: Chemical reagent strip for haematuria was the most sensitive of all screening methods assessed with sensitivity of (78.8%) also with high NPV (97.8%), followed by self reported haematuria (51.9%), and visual examination of urine was least sensitive of all (42.4%). In terms of specificity, self reported haematuria was the most specific (91.7%) with positive predictive value (34.9%).
Conclusion: Chemical reagent strip and history of haematuria are still useful diagnostic tools for targeting Praziquantel-MDA to school children in schistosomiasis endemic areas.

128. Title: Development and Validation of stability indicating HPLC assay method for Lamivudine/Tenofovir (300mg/300mg) in tablet.

Author(s): R. Shedafa[1], Manyanga V[1], Kaale E[1], Bonsman C[2]

Institutions:
[1]Pharm R&D Laboratory, Muhimbili University of Health and Allied Sciences, Tanzania,
[2]Action medeor, Germany

Background: According to the current, WHO algorithm for the Quality of Drug, Stability Testing has become key information on Drug registrations and approval because stability study explain about how the quality of bulk drug or drug product varies with time under the influence of various environmental factors such as temperature, humidity, light and help to determine recommended storage condition, establish retesting time and shelf lives. HPLC methods are specific, selective and sensitive to quantitative and qualitative analysis.
Objective: The study will target to develop and validate a stability indicating method for generic Lamivudine /Tenofovir (300mg/300mg) fixed dose combination formulation and to conduct stability testing.
Methodology: Optimizations of chromatographic conditions was performed by improving separations of mains active ingredients and impurities, factors such as resolution factor, theoretical plate, capacity factor and tailing factor were determined by using and found to be within required specifications. Method Robustness was assessed by using chemometric experimental design using central composte face centered design by moddle 4.0 software.
Results: During the first part of method development, method optimization was carried out to improve separations of main API of lamivudine and Tenofovir with their main degradants. There was a good separation between the main active ingredient and its impurities and thus the system suitability was confirmed.
Conclusion: The optimized conditions will be used on further method validations as it shows that all impurities were able to separate from the main API of Lamivudine and Tenofovir. The method will be used for stability testing of LT in Tablets.

129. Title: Assessment of in-use stability of quinine liquid formulation using HPTLC

Author(s): M. Sheikh[1], Manyanga V , Kaale E.

Institutions:
Pharm R&D Laboratory, MUHAS, Tanzania,

Background:
Impurities could be as a result of decomposition of active pharmaceutical ingredient in a formulation which has been exposed to extreme conditions after first opening of container. This occurs usually to a multidose product including quinine liquid formulation. This might pose risk to patient when consuming a product. To overcome this, stability indicating analytical method should be available to study the impurities and degradants characteristics. Quinine has few stability indicating assay methods available like HPLC and UV-Vis spectroscopy.
HPTLC method approach for this compound is not yet established, only limited information is available. Therefore a forced degradation test was done by challenging the compound to study its physicochemical characteristics.
Aim: The study focuses on assessment of in-use stability of commercially manufactured and extramponeously prepared liquid quinine formulations..
Methodology: The available samples were collected from identified medicine outlets, of which part of it are stored at manufacturer's recommended storage condition i.e. store below 30^0C, protected from light, and other samples are subjected to stability chamber. Extramponeously

prepared quinine syrup was subjected to similar manner of stability studies for two weeks to compare and to establish stability profile.
Results: The HPTLC method of assay of quinine available at department of medicinal chemistry, school of pharmacy, MUHAS, was confirmed to be able to determine stablility. The was able to separate impurities and degradants and therefore suitable for the purpose of in-use stability studies.
Conclusion: This method can be used to determine the in-use stability period with regard to API and other physicochemical parameters.

130. Title: Development and validation of a stability indicating HPTLC method for ascorbic acid and its application in stability studies of Rosella formulations

Author(s): Peter E[1], Tibalinda P[2], Ngwananogu R[2], Mashoto K[1], Kaale E[2]

Institutions:
[1]National Institute for Medical research, Headquarters, Box 9653, Dar Es Salaam, Tanzania
[2]Muhimbili University of Health and Allied Sciences, School of Pharmacy, Dar es salaam, Tanzania

Background: Anaemia contributes to several health and socio-economic consequences among Tanzanian. The challenges associated with present interventions have necessitated individuals to search for alternatives. As a result, substantial numbers of Tanzanians have been using Roselle juice in an attempt to correct iron deficiency anaemia. However, the is no standardization method in place. Therefore, as a part of standardization of rosella juice and other related products, a simple, selective, precise, and stability indicating high performance thin layer chromatographic method has been developed and later will be validated for analysis of ascorbic acid and then applied for stability studies of oral herbal formulations.
Objective: To develop an accurate, specific, repeatable and stability-indicating HPTLC method for the determination of ascorbic acid in presence of their degradation products for assessment of stability of oral herbal formulations of *Hibiscus sabdariffa L* forms.
Methods: We investigated the influence of different solvent polarities on the separation of ascorbic acid with its potential degradation products after stress test. A mobile phase comprising of Water:Ethanol: Acetone : Glacial Acetic Acid (3:22:5:0.2 ml) on silica gel 60 F254 HPTLC plates provided good separation of the potential degradants. with Densitometric analysis of ascorbic acid was performed at 254 nm.
Results: The method had a promising stability indicating capacity to separate ascorbic with an R_f of 0.56. for principal peaks from its degradation products.
Conclusion: Preliminary results show the potential application of this method. The next step we plan to optimise and validate the method.

131. Title: The Possibility of Reformulating Efavirenz in Reduced Tablet Core Weight.

Author(s): P. Tibalinda**,** Manyanga V, Kaale E.

Institution:
Pharm R & D Laboratory-School of Pharmacy-MUHAS
Dar es salaam-Tanzania.

Background: Efavirenz has poor solubility and high permeability (Class II pharmaceutical substance). It is poorly water soluble drug (10 g/ml) with 40-45% bioavailability. It is a non-nucleoside reverse transcriptase inhibitor (NNRTI) used in the current first line regimens recommended by the WHO for the management of HIV/AIDs in affected individuals.
Objectives: The available Efavirenz 600 mg tablets on the market have a core weight of 1200 mg per tablet. Excipients are available in 50% and the rest portion is occupied by the Efavirenz (API). This brings to high cost of manufacturing of the product.
The conventional approach of manufacturing the drug with an inclusion of optimized amounts of surfactant (Sodium Lauryl Sulphate) and other excipients has been shown to reduce the tablet core weight by 25% (400 mg) without interfering with the quality of the drug.
Methodology: Efavirenz tablets were developed by a conventional approach through a wet granulation method. The amount of excipients were optimized through a number of formulation trials. The formulation were evaluated basing on assay, dissolution, disintegration time and weight variation results.
Results: The final optimized formulation ofEfavirenz had an average core weight of 802.6 mg, assay 98.71% (92-110%), dissolution 98.71 (<70% in 45 minutes at 37 °C), disintegration time 4-5 minutes (<15 minutes at 37 °C) and the weight variation, rsd 0.999% (<5%).
Conclusion: The reformulation of efavirenz tablets to reduced core weight by 25% has been shown to be possible. This approach will cut off the production cost by 25%, hence reduce the market price of the product.

132. Title: Development and Validation of an HPTLC Densitometric Method for Assay of Griseofulvin Tablets

Author(s): N. Masota[1], Tibalinda P, Sempombe J[2], Kaale E[1], Layloff T[3]

Institutions:
[1] Pharm R&D Lab, School of Pharmacy, MUHAS, Dar Es Salaam , Tanzania
[2]Department of medicinal chemistry School of Pharmacy, MUHAS, Dar Es Salaam , Tanzania
[3]Supply Chain Management System, 4301 N. Fairfax Drive, Suite 400, Arlington, VA, USA

Background: Griseofulvin is an oral active antifungal antibiotic derived from the mold *Penicilliumgriseofulvum* that is primarily used to treat dermatophyte infections in humans and animals. Analysis of Finished Pharmaceutical Products (FPP) is vital to ensure manufacturing of good quality products.HPTLC is a simple, effective and affordable technique used in analysis of various compounds.Currently there is no a validated HPTLC method for quantitative and qualitative analysis of Griseofulvin tablets which has been developed.
Aim: To develop and validate an HPTLC densitometric method for assay of Griseofulvin in tablets formulation.
Methods: Instrumentation involved the HPTLC applicator,trough chamber,TLCscanner,dataanalysissoftware, syringe and Silica gel 60 F254 pre-coated TLC

plates. Choice of mobile phase was done by observation of the polarity of different reagents in comparison to Griseofulvin's solubility. Working solutions were applied on silica gel plates using an automated syringe. The spotted plates were developed on flat bottom chamber; air dried and scanned at 299nm, validation was done as per ICH guidelines.
Results: The optimal mobile phase system for Griseofulvin was Diethylether:Toluene (4:1) v/v, the saturation time was 25minutes. There were no interference from the exipients or solvents, for repeatability and intermediate precision the RSD values were 1.43 and 1.58 respectively, for Linearity tests, the polynomial R^2 values were 0.9915, 0.9801 and 0.9842 on three consecutive days, accuracy values tested at 80%, 100% and 120% concentrations were between 98.11% - 102.66%.
Conclusion: The developed HPTLC densitometric method for Griseofulvin was simple, reproducible, accurate, cost effective and environmentallyfriendlier. The methodwas validated and is suitable for use in qualitative and quantitative analysis as well as screening of Griseofulvintablets.

133. Title: Development and Validation of HPTLC Densitometric Method for Assay of Miconazole Cream.

Author(s): Masota N, Tibalinda P, Manyanga V, Kaale E, Layloff T.

Institution:
Pharm R&D Lab, The School of Pharmacy, MUHAS, Dar Es Salaam , Tanzania.

Background: Miconazole is an imidazole antifungal agent, applied topically to the skin or to mucus membranes to cure fungal infections.
Analysis of Finished Pharmaceutical Products is vital to ensure manufacturing of good quality products. HPTLC is a simple, effective and affordable technique used in analysis of various compounds.The available HPTLC methods for analysis of Miconazole involve the use ofenviromnentaly harmful reagents: Chloroform and Tetrachlorocarbon.
Aim: To develop and validate an HPTLC densitometric method for determination of Miconazole in a cream formulation.
Methods: Instrumentation involved the HPTLC applicator, trough chamber,TLC scanner,data analysis software, syringe and Silica gel 60 F254 pre-coated TLC plates.
Choice of mobile phase was done by observation and consideration of the Polarity of different reagents in comparison to the solubility of Miconazole. Working solutions were applied on silica gel plates using an automated syringe. The spotted plates were developed on flat bottom chamber; air dried and scanned at 299nm, validation was done as per ICH guidelines.
Results: The optimal mobile phase system was 25ml Ethyl acetate +0.5ml Ammonia solution 25%, the saturation time was 25minutes.
On validation, there were no interference from exipients or solvents, for repeatability and intermediate precision the RSD values were 1.14 and 1.98 respectively, for linearity tests, the polynomial R2 values were 0.9809, 0.9927 and 0.9813 respectively on three consecutive days, Accuracy values tested at 80%, 100% and 120% concentrations were between 98.32 %-106.86%.
Conclusion: The Developed HPTLC densitometric method for Miconazole cream was simple, reproducible, accurate, cost effective and environmentallyfriendlier. The methodwas validated is

suitable for use in qualitative and quantitative analysis as well.

134. Title: Formation of Tanzania Genome Network: Leveraging Technology for Genomics and Bioinformatics in Tanzania

Author(s): Sangeda R, Bukini D, Urio F, Kivuyo M, Tarimo B, Mayige M, Mwakale P, Nkya S, Ishengoma D, Misinzo G, Makani J

Institution:
Tanzania Genome Network

Introduction: In the past few decades, genomics research has led to ground breaking discoveries in translational medicine for diseases like cancer and diabetes. Genomics has been central to our understanding of infectious diseases such as malaria, HIV and tuberculosis among others. The aim is to highlights the progress of collaborative research by Tanzania Genome network (TGN) whose intention is to leverage technology in solving mankind problems**.**

Methods: TGN is a multi-disciplinary initiative to bring together researchers and practitioners from different fields of science including health, agriculture, physical, social and mathematical sciences.

Results: Recognizing the potential of genomics, firstly, Tanzanian scientists have come together to establish the Tanzania Genome Network (TGN). Scientists are based at universities; Muhimbili University of health and Allied Sciences (MUHAS), University of Dar es Salaam (UDSM), Sokoine University of Agriculture (SUA), Hubert Kairuki Memorial University (HKMU), Nelson Mandela African Institute of Science and Technology (NM-AIST), Kilimanjaro Christian Medical Centre (KCMC), African Academy of public Health (AAPH/MDH)/Havard School of Public Health. Involved research institutions; Ifakara health institute (IHI), National institute for Medical research (NIMR), African Malaria network Trust (AMANET) and other stakeholders in government are Ministry of Health and Social Welfare (MoH & SW) and National Health Laboratory Quality Assurance and Training centre.

Secondly, Tanzania is part of several genomic networks in health (malaria, HIV, TB, Sickle Cell Disease, Diabetes Mellitus and other NCDs), agriculture (Cassava) and livestock. Efforts are made to strengthen bioinformatics, which is critical to handle BIG DATA in genomics. Tanzania is part of H3ABioNet, an NIH-funded Pan African Bioinformatics network comprising of 32 Bioinformatics research groups distributed amongst 15 African countries and 2 partner Institutions based in the USA. Since, 2012 Tanzania, with its research centres, has benefited through this network initiatives, the latest being support for Bioinformatics degree curriculum development.

Conclusion: Through sharing of resources and proper use of BIG DATA, Tanzania is utilizing science and technology to solve local problems in health, agriculture and other fields. This will have an impact beyond the field of science and bring about commercial success and economic development of the citizens.

THEME: NON COMMUNICABLE DISEASES

135. Title: Silent killer, silent health care: Managing hypertension in Tanzania: A Case study of Muhimbili Diabetic Clinic

Author(s): Fivawo C

Institution:
School of Nursing, Muhimbili University of Health and Allied Sciences

Background: It is still a widely held belief that low- and middle-income countries like Tanzania should focus on tackling infectious disease. However, this view ignores the rapid upsurge in chronic disease and associated disabilities and death. In reality, low-income countries like Tanzania have to learn to cope simultaneously with both old and new public health challenges. This is particularly important for the prevention of hypertension, a chronic disease referred to as the 'silent killer', since it afflicts people without necessarily showing any symptoms.
Methods: The survey was designed to elicit information from patients diagnosed with hypertension at Muhimbili diabetic centre.Patient case s records tudies of the management of hypertensive patients at the Muhimbili Diabetic Centre in May–June 2013
Aim: To deterime and identify opportunities and and the need for nurse-led hypertension management and prevention.
Results: The study found focuses on patients who were hypertensive on first arrival at the clinic and found to have poorly controlled hypertension. Evidence from the study also reveals that a large majority of these patients were diagnosed with hypertension only on arrival at the hospital level. Finally, while it is often assumed that hypertension is an illness of the elderly, a majority of these patients had been diagnosed while of working age and of child-rearing age.
Conclusion: What implications can be drawn from this study to guide improvements in the management and prevention of hypertension in Tanzania? In this clinic, nurses collected excellent records of weight, height, and blood pressure on each visit. However, at present the nurses do not use this information to monitor and evaluate the progression of hypertension in their patients. It follows that there is an opportunity to delegate the task of managing hypertension to nurses. Achieving this will require new protocols for nurses and changes in supportive management. Beyond the clinic setting, the study suggests that improved screening, monitoring, and hypertension prevention requires a shift to nurse management of this chronic disease at the primary care level.

136. Title: Amelogenesis imperfecta: A problem to dental esthetics and oral functions

Authors: Makoye N[1], Shempemba P[1], Carneiro L[2], Severine A[2], Machibya F.[2], Mandari G[2]

Institutions:

[1]Restorative Dentistry- Muhimbili University of Health and Allied Sciences (MUHAS)
[2]School of Dentistry, Muhimbili University of Health and Allied Sciences (MUHAS)

Background: Amelogenesis Imperfecta is a rare inherited abnormality of the tooth enamel with a variable occurrence of approximately 1:4,000 to 1:14,000 in Western populations. It is not associated with any systemic disorder.
Aim: To describe the management protocol used in the oral rehabilitation of two similar complicated cases of Amelogenesis Imperfecta.
Methods: Management of this case was a multidisciplinary approach involving disciplines of restorative, orthodontics, prosthodontics and oral maxillofacial surgery. Investigations for both patients included OPG, Study models, periapical X-rays, vitality pulp testing and photographs. The treatment plan aimed at preserving the tooth structure, close spaces & anterior open bite, improving dental esthetics (appearance), improving oral functions, and prevent periodontal infection and further damage of enamel.
Results: Two cases of a boy and a girl aged 22 years of age with similar complaints.
Case 1: A boy with main concern of dissatisfaction with colour and general appearance of teeth, teeth hypersensitivity, lacking confidence, difficult pronouncing some words and chewing, a history of gingival pain and swelling. On examination he was found with small and yellow in colour teeth, several missing teeth, retained deciduous molars, no proximal contacts of teeth, anterior open bite, gingival recession and teeth rotation on anterior region. Temporary bridge using acrylic resin for anterior segment from canine – canine both jaws were fabricated. Three months recall examination revealed no pathology and the patient was satisfied with teeth appearance.
Case 2: A girl with similar features except hypersensitivity and retained deciduous molars. One of her siblings has small sized teeth. Closing of spaces was done by fixed orthodontic appliances. Future treatment includes; root canal treatment, crowning of tooth 23 and 43, periodontal surgery crown lengthening and eruption of impacted teeth.
Conclusion: Proper multidisciplinarytreatment of Amelogenesis Imperfecta relives patients of their complaints, improves functionand aesthetics.