PREVALENCE AND FACTORS ASSOCIATED WITH HEALTHCARE PROVIDER BURNOUT AT BENJAMIN MKAPA HOSPITAL IN DODOMA

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PREVALENCE AND FACTORS ASSOCIATED WITH HEALTHCARE PROVIDER BURNOUT AT BENJAMIN MKAPA HOSPITAL IN DODOMA

By

JESSE MAGALI MNYUNE

A Dissertation Submitted in Partial Fulfilment (for Dissertations) of the Requirements for the Degree of Master of Public Health of the Muhimbili University of Health and Allied Sciences

October, 2024

CERTIFICATION

The undersigned certify they have read and hereby recommend for acceptance of a dissertation entitled **"Prevalence and Factors associated with Healthcare Provider Burnout at Benjamin Mkapa Hospital in Dodoma**" in partial fulfillment of the requirements for the Masters of Public Health at Muhimbili University of Health and Allied Sciences, (MUHAS)

_____

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Supervisor

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Date

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Ms Witness Axwesso

Co-Supervisor

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Date

DECLARATION AND COPYRIGHT

I, **Jesse Magali Mnyune**, declare that I am the sole author of this Dissertation as my own original research work, and that it has not been presented and it will not be presented to any other University for similar or any other degree award; and where other people's research was used, they have been fully acknowledged.

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Finally, I give thanks to God for granting me the strength, knowledge, and perseverance to undertake and complete this research project.

DEDICATION

This dissertation is dedicated to my parents, who have tolerated my occasional meltdowns. Your unwavering support and understanding have been instrumental in helping me complete this dissertation.

ABSTRACT

Background: Healthcare provider burnout has been on the rise, especially in low- and middle-income countries with limited resources. Most healthcare providers are faced with stressful situations being in the forefront of taking care of patients coupled with institutional factors and individual factors, which impacts their well-being. Burnout can manifest as physical or mental symptoms, which can be detrimental to the healthcare provider and compromise the quality of healthcare, and thus finally affecting the patient. Thus, this research aimed at shedding light at this phenomenon that has been on the rise affecting health personnel.

Objective: The study assessed the prevalence of burnout among health care providers and its associated factors at Benjamin Mkapa Hospital, Dodoma.

Methodology: The study utilized a cross-sectional analytical design with a quantitative approach. The Maslach Burnout Inventory – Human Services Survey was employed as the data collection tool. Stratified sampling was used to select 223 participants from the Benjamin Mkapa Hospital. Descriptive statistics was used to characterize study respondents and estimate prevalence of burnout. Chi-square test was used to examine association between independent variables to burnout. Multivariable logistic regression was used in analysis, and used to determine relationship between work-related, socio-demographic and behavioral factors with burnout among healthcare providers. Statistical analysis was conducted using Statistical Package for Social Sciences (SPSS) version 27, with a significance level set at 95% for all statistical tests.

Results: A total of 223 healthcare workers were invited to participate in the study through questionnaires. Of these, 202 questionnaires were eligible for analysis. The prevalence of burnout among the participants was 57%, with 64.4% of them exhibiting a high level of emotional exhaustion. Factors such as less years of practice, inadequate staffing, and stressful call duties were found to be associated with increased burnout among work-

related factors. Regarding socio-demographic and behavioral factors, only the age of the healthcare worker was significantly linked to burnout.

Conclusion and recommendations: The study revealed a concerning prevalence of burnout among healthcare workers at Benjamin Mkapa Hospital. Regular assessment of staff well-being, mentor-ship programs, flexible work hours and adequate rest periods are recommendations. Additional research is needed to fully understand the extent and underlying reasons for burnout among healthcare workers in other healthcare settings.

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ABBREVIATIONS

AOR	Adjusted odds ratio
BMH	Benjamin Mkapa Hospital
CI	Confidence interval
COR	Crude odds Ratio
EM	Emergency Medicine
HR	Human resource
JKCI	Jakaya Kikwete Cardiac Institute
LMICs	Lower- and Middle-Income Countries
MBI	Maslach Burnout Inventory
MNH	Muhimbili National Hospital
MOI	Muhimbili Orthopedics Institute
ORCI	Ocean Road Cancer Institute
PPE	Personal protective equipment

OPERATIONAL DEFINITIONS

Burnout: A syndrome conceptualized as resulting from chronic workplace stress that has not been successfully managed.

Depersonalization: a state in which one's thoughts and feelings seem unreal or not to belong to oneself.

Cynicism: the feeling of distrust or that something is not going to work out well.

Exhaustion: a state of extreme physical or mental tiredness.

Health worker burnout: an occupational syndrome affecting healthcare workers characterized by emotional and physical exhaustion, depersonalization and a lack of perceived effectiveness.

Perception of call duties: how one perceives/views their on-call duties which then impacts their attitude, actions and choices.

Work autonomy: employee freedom to work in a way that suits them which includes having control over their job tasks and freedom of decision making.

Work life balance: the amount of time you spend doing your job versus the amount of time you spend doing what's important to you outside of work e.g personal interests and hobbies.

CHAPTER ONE

1.0 INTRODUCTION

1.1 BACKGROUND

The widely accepted definition of burnout, as proposed by Maslach and Jackson (1981), characterizes it as a response to chronic unresolved work-related stress comprising three components: emotional exhaustion, depersonalization, and reduced personal accomplishment. Included in the 11th revision of the international classification of diseases (ICD-11) as a concerning occupational phenomenon, WHO describes burnout as a syndrome, characterized by three dimension: feeling of energy depletion or exhaustion, increased mental distance from ones job, feelings of negativism related to one's job, and reduced professional efficiency resulting from chronic work-place stress that has not been successfully managed (1).

Emotional exhaustion pertains to the physical and emotional strain that result from interactions with colleagues and clients. Depersonalization is the development of cynical attitudes and responses toward coworkers and the beneficiaries of the services that one provides. Reduced personal accomplishment refers to the tendency of person to adopt a negative self-perception as a consequence of unrewarding situations. Prolonged periods of excessive work and elevated stress levels can eventually lead workers to burnout in the long term among workers (2).People with burnout present with psychosomatic problems (such as weakness and insomnia), emotional problems (anxiety and depression), attitude problems (hostility, apathy and distrust) and behavioral problems (aggressiveness, irritability and isolation) (3).

The main elements of burnout that may trigger feelings of exhaustion and skepticism, making healthcare professionals become inattentive when caring for patients, compromising the quality of care, are emotional exhaustion and depersonalization. Elevated burnout rates have been linked with negative impacts of teamwork, safety, and job satisfaction as well as greater patient and family complaints as well as lower levels of patient satisfaction (4). Burnout and poor well-being of healthcare workers has been

recognized as common occupational hazard and associated with patient safety events such as medical errors (5). Studies on burnout among healthcare workers have linked burnout and medical errors to be driven by both lack of motivation or energy and impaired cognitive function (4,6). This leads to healthcare workers to be detached and emotionally distant, treating their patients impersonally. While medical errors can occur in the absence of burnout, their likelihood is significantly higher when burnout is present (7) .

The prevalence of burnout varies widely, ranging between 2.5% to 87.9% in studies conducted worldwide on risk factors of physician burnout in resource limited countries such as the low-and-middle income countries (8). Various studies, in African region, showed the prevalence of burnout among health care professionals varied between 51% to 94 % (9).A study done in Tanzania (Muhimbili Hospital) showed high prevalence of 62% (10). Another study done in Bugando Hospital, linked burnout to 67% of emergency medicine providers and 70% of specialists (11).

Factors associated with burnout can either be institutional factors such as excessive workload and administrative bottlenecks, lack of organizational support, excessive work demand e.g. cadre/department wise, poor wages or individual factors such as age, gender, cadre, relationship status, work experience, reactivity to stress, psychological factors and personality traits (9,12,13).

This study highlights the prevalence of burnout in our tertiary settings such as referral hospitals like Benjamin Mkapa Hospital, and its associated factors so as to establish the prevalence and causes of burnout.

1.2 PROBLEM STATEMENT

Burnout among healthcare providers is a significant issue worldwide, particularly in resource-limited countries like Tanzania, where unique challenges such as limited resources, high workloads and inadequate staffing significantly impact the well-being of healthcare workers. The prevalence of burnout in Tanzania was between 67% and 70% among emergency medicine physicians and specialists at Bugando Hospital respectively

(11). Institutional and work-related factors, such as inadequate coverage for emergencies or leave and unnecessary administrative paperwork, contribute to burnout in Tanzania. The burden of burnout is catastrophic, leading to high turnover rates, job dissatisfaction, and threats to patient safety, thereby increasing health expenses. While some studies have focused on acute care settings like ICUs and Emergency Medicine Departments, little is known about burnout in non-acute care settings in Tanzania's tertiary system. This is due to the immediate and visible nature of stress in acute care settings. Also none acute care settings include a variety of facilities such as outpatient clinics and rehabilitation centers, making this diverse and complicated in assessment of burnout as experiences may differ across different types of care. Therefore, there is an urgent need for comprehensive research to investigate the prevalence, associated factors, and impact of burnout among healthcare professionals in resource-limited countries, as well as to identify specific stressors and risk factors contributing to burnout in these contexts to develop effective strategies to support the mental health and resilience of healthcare workers and improve the quality of care provided in challenging environments.

1.3 CONCEPTUAL FRAMEWORK

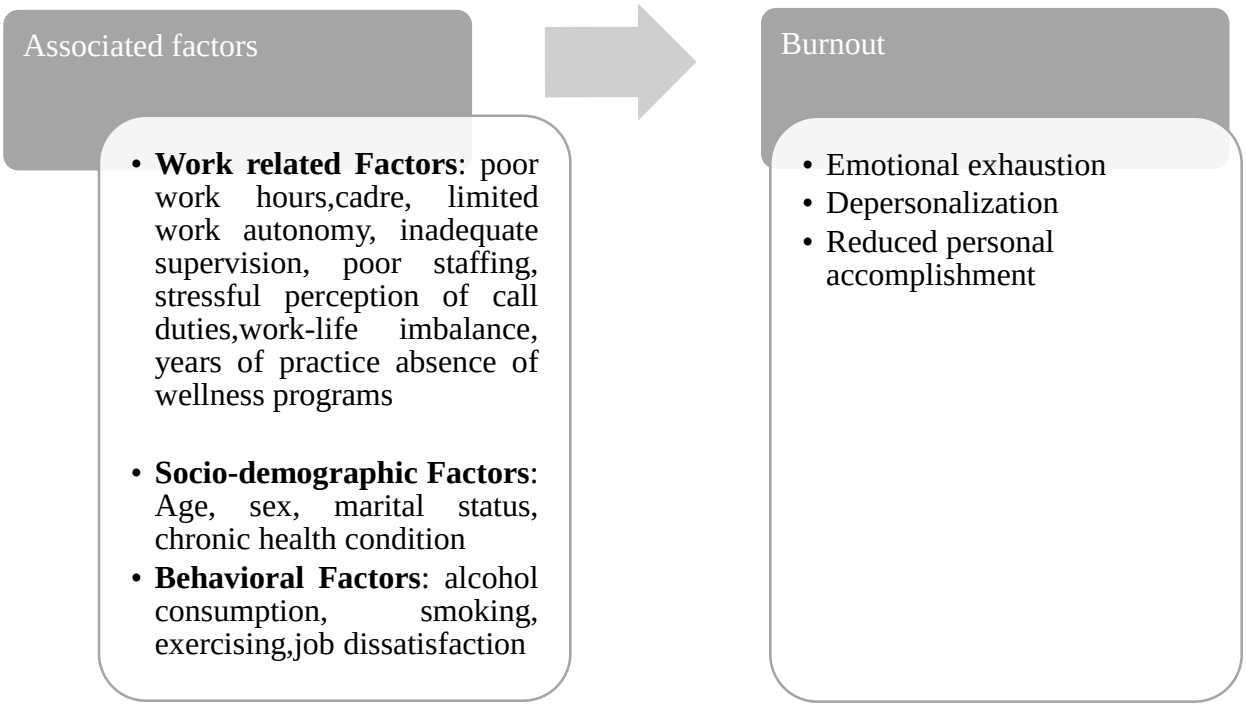


Figure 1: Adopted and modified conceptual framework on factors associated with burnout among healthcare workers (51)

Burnout is a complex condition that can be attributed to various factors, both work-related and Socio-demographic and behavioral factors. Factors in the work environment that lead to burnout are such as, long work hours which lead to exhaustion and stress, limited work-autonomy which might lead to feelings of helplessness, absence of perceived social support leading to isolation and inability to recharge, inadequate supervision, poor staffing, absence of wellness programs and socio-demographic factors such as age, sex, marital status, presence of chronic health condition and behavioral factors such as job dissatisfaction and poor coping mechanisms which lead to inability to mitigate and recover from prolonged stress which eventually leads to burnout.

1.4 RATIONALE

Burnout negatively impacts provider's quality of life, patient outcomes, and healthcare systems worldwide, and is particularly worrying in settings with a lack of healthcare professionals and limited resources (14).This study helped us understand the prevalence, and associated factors for burnout, which can help us develop effective interventions at both individual (social support, self-care, time management) and organizational level (availability of mentor-ship programs, wellness programmes such as departmental retreats and group exercises), which in turn ensures well-being of the healthcare work force.

1.5 RESEARCH QUESTIONS

1.5.1 Main Research Question

What is the prevalence of burnout and its associated factors among health care providers?

1.5.2 Specific Research Questions

i. What is the prevalence of burnout among healthcare providers?
ii. What are the work-related factors associated with burnout among health care providers?
iii. What are the socio-demographic and behavioral factors associated with burnout among healthcare providers?

1.6 BROAD OBJECTIVE

To assess prevalence of burnout and its associated factors among health care providers at Benjamin Mkapa Hospital, Dodoma.

1.6.1 SPECIFIC OBJECTIVES

i. To assess prevalence of burnout among healthcare providers at Benjamin Mkapa Hospital.
ii. To assess work-related factors associated with healthcare provider burnout at Benjamin Mkapa Hospital.
iii. To assess socio-demographic and behavioral factors associated with healthcare provider burnout at Benjamin Mkapa.

CHAPTER TWO

2.0 LITERATURE REVIEW

2.1 INTRODUCTION

This chapter reviews various empirical studies and literatures on the prevalence of burnout and the factors it's associated with. The chapter examines various studies and reports done both locally (Tanzania), Regionally (Africa) and globally.

Burnout, a syndrome caused by unresolved work stress (15), has been on the rise recently. It has increasingly been getting recognition in the health sector in comparison to general population. Studies have shown that burnout starts at early stages of medical training and worsens during practise(16).

2.2 PREVALENCE OF BURNOUT

2.2.1 Global prevalence of burnout

A study on physician burnout and wellness post covid-19 pandemic in the US found out that 3 in 5 physicians experienced at least one manifestation of burnout in 2021 (17).The study also reports increase in mean emotional exhaustion and depersonalization scores compared to previous years.in comparison to the 38.2% reported in 2020, 43.9% in 2017, and 54.4% in 2014, 62.8% of physicians reported at least one manifestation of burnout (18). Prior to the pandemic, age, sex, relationship status, work hours and practice setting were factors associated with burnout.Covid-19 surge brought about tough working conditions such as short staffing and moral distress which led to increase exhaustion , cynicism and reduced personal efficacy scores (19,20).

A systematic review of burnout among nurses indicated that the globally, the prevalence of burnout symptoms ranged between 11.23% to 30% among nurses (21). In Sub-Saharan African region, report shows that it had the highest prevalence of burnout symptoms in comparison to Europe and Central Asia region (21). Among all nursing specialties, paediatric nurses had the highest prevalence rates of burnout while geriatric care nurses had the lowest. The physical and psychological toll nurses are subjected being in the frontline

in their services towards patient, is the reason of high rate of burnout in this cadre. Also factors such as overwhelming workloads, and established systemic issues such as irregular work hours, “voluntary” overtime, poor shift rotations and poor staff numbers are shown to be associated with burnout among the nursing profession. (22).

Another study, on burnout among general practitioners in Europe, showed a wide range of prevalence ranging between 3% and 32% (23), with emotional exhaustion scores, followed by reduced personal accomplishment and low scores on depersonalization. Factors attributed to burnout in this study was heavy workload faced in the primary care system (24)

A study in the UK on prevalence of burnout found out a third of doctors involved in the study (ranging 2.5% to 72%) (23) with burnout, most being in general practice and emergency medicine. This was attributed to their work environment, which involves seeing large number of patients, in acute setting, needing urgent care and the problem of being understaffed. The results of the study indicated that doctors in these specialties experience the highest levels of exhaustion, stress and compassion fatigued (25).

In the Middle East, burnout among medical personnel ranges between 40%-60% (26), associated with characteristics of their environment, their fragmented health system, shortage of healthcare professionals, acts of violence and terrorism, emotional strain and poor social support. The study highlighted the urgent need to create, enhance and execute initiatives that aim at addressing burnout among healthcare professionals (26).

In China, a study on burnout and well-being among medical professionals, showed high prevalence of burnout ranging between 66.5% to 87.8% (27).The study found that burnout was more common among doctors working over 40 hours per week, employed in tertiary hospitals, younger age group (30-40 years old) in the profession, and those with negative perception towards work and life (28). Another study in China showed high occurrence of burnout among healthcare professionals, particularly male medical staff, individuals with few years of work experience, tertiary hospital staff and specialists in psychiatry, intensive care, emergency medicine, internal medicine, oncology, and pediatrics departments

(29).Both studies mentioned above also attribute higher prevalence of burnout to high number of patients to doctor ratio. Current data shows 3.04 physicians per 1000 inhabitants (30).

The trends outlined in the literature above shows that burnout is pervasive and escalating among healthcare workers. It emphasizes the need for immediate interventions tailored to the unique challenges faced by healthcare workers in Tanzania.

2.2.2 Regional prevalence of Burnout

In Sub-Saharan Africa, a study on burnout among healthcare professionals revealed that burnout was prevalent among physicians, nurses, and other healthcare professionals, with estimates ranging from 40% to 80% (13).In reference to the Maslach Burnout Inventory, emotional exhaustion was at 66%, depersonalization was at 60% and feelings of low personal achievement was at 49% (9).

In low-and-middle-income countries, the scarcity of healthcare professionals has added strain to healthcare systems (31) ; for instance, In the Sub-Saharan region of Africa, which accounts for approximately 11% of the global population, carries more than 24% of the worldwide disease burden. However it only 3% of global health work force and allocated just 1% of the world's health financial resources (32). This situation stretches the health workforce thin, increasing the pressure to deliver care in inadequate conditions. In many developing countries, healthcare professionals are concentrated in urban areas, leading to an imbalance in both the numbers and geographical distribution of healthcare workers, as well as in the available skills mix among them (33).

This regional data reinforces the notion that Tanzania, as part of Sub-Saharan Africa, is likely to face similar challenges. The high rates of burnout reported in the current study at institutions like Muhimbili National Hospital and Bugando Medical Centre are indicative of systemic issues mirrored across the region

2.2.3 Prevalence of Burnout in Tanzania

A study conducted at Muhimbili National Hospital, revealed a significant proportion of healthcare professionals in acute care settings are experiencing burnout, it revealed 62% of participants were experiencing burnout, and 90.4% had high levels of emotional exhaustion (10). This high prevalence of burnout calls for the need for effective interventions to reduce burnout among healthcare professionals, as it is associated to increased low job satisfaction and professionalism among the affected workers, and high patient safety risk and low satisfaction with the care encountered by patients.

The research also highlights the importance of the hospital in addressing the issue of burnout among its healthcare staff and urged for prompt action to combat burnout within the institution, additionally it recommended conducting further studies to examine the scope and root causes of burnout in acute-care setting. The study also revealed longer work day, reduced hours of sleep at night, smoking, and lack of regular physical activity were highly linked to increased burnout (10), which highlighted the need to be addressed in order to tackle this problem.

Another study focusing on Tanzanian physicians found a high prevalence of burnout, with 67% of Emergency Medicine providers and 70% of specialists at Bugando Medical Centre experiencing burnout. Prevalence of emotional exhaustion and depersonalization ranging between 40%-60% (11). In this study, various factors contributed to burnout were multifactorial, such as career dissatisfaction, contemplating changing workplaces, urban work environment, insufficient emergency coverage or leave and financial obligations related to housing. while those among Bugando specialists were more work related such as excessive administrative tasks, overnight work shifts, the demand to improve patient satisfaction or reduce hospital stays, and a lack of valuable mentorship opportunities (11).

A study focusing on burnout among resident doctors reported an overall burnout prevalence of 33.7% among resident doctors from Muhimbili University of Health and Allied Sciences who undergo their clinical rotations at Muhimbili National Hospital (MNH), Muhimbili Orthopaedics Institute (MOI), Jakaya Kikwete Cardiac Institute (JKCI)

and Ocean Road Cancer Institute (ORCI).The study found that 51.5% reported emotional exhaustion, 44.5% reported depersonalization, and 36.2% in reduced personal accomplishment (34).

These findings align with the current study's emphasis on the urgent need for interventions. The documented factors contribute to a cycle of burnout that not only affects healthcare providers but also poses risks to patient safety and care satisfaction.

2.3 FACTORS ASSOCIATED WITH BURNOUT

2.3.1 Global factors associated with burnout

The causes of burnout among healthcare providers are multifaceted, including work-place related and personal factors. Work place-related factors include excessive workload, administrative burden, limited control over scheduling, lack of organizational support, work-to family conflict, patients' unrealistic expectations, extended working hours, excessive administrative procedures, inadequate communication among healthcare staff and organizational challenges. Personal factors include age (the younger the age the more they are predisposed to burnout), profession, workplace seniority, relationship status(married individuals were less burnout out) (35).

In a study on burnout among healthcare professionals, factors linked to burnout included age, occupation, workplace seniority, marital status and caring for dependents. The study revealed that younger participants faced higher risk of burnout while those with less work experience were more susceptible to burnout. Furthermore, married individuals and those with children were less prone to experiencing burnout (35).

A study in the UK on burnout among surgical specialty, showed the risk factors of burnout to be age, level of training , gender (with females being more affected), insufficient training in communications and management skills, reduced job satisfaction, absence of children and a positive mood state, as well as being married or in a committed relationship, were identified to be protective factors against burnout (36).

A research done in the Middle East, among medical residents in Lebanon, revealed that individuals working more than 80 hours per week were at a higher risk of experiencing burnout compared to those working fewer hours (26). Research conducted among physicians in Saudi Arabia, identified factors such as high patient volume, increased paperwork, disorganized patient flow to clinics, and pressure from patients or violent patients were significantly linked to burnout. Furthermore excessive work load and challenges in maintaining a work-life balance were both significantly linked to be causes of high emotional exhaustion in a research done in Iran (37). In Turkey, a study found university hospital assistant physicians, at a university hospital, found individuals who were content with their monthly income differed greatly with those who were dissatisfied, contributing to mean emotional exhaustion, depersonalization and personalization scores (38). In Egypt, a research done at a university hospital revealed that the frequency of shifts and working night shifts were identified as significant factors predicting high levels of burnout across the three domains (39). Additionally, at university and state hospitals in Turkey, nurses who had regular night shifts was found to be associated with high rates of burnout, compared to those always on day shift or occasionally working night shift (26).

Globally, burnout is significantly affected by excessive workloads, administrative burdens, lack of organizational support, and work-family conflict. Younger healthcare providers and those with less experience are particularly vulnerable, while factors such as marital status can provide protective effects. Studies indicate that high patient expectations and insufficient support exacerbate stress levels, underscoring the need for systemic changes.

2.3.2 Regional factors associated with burnout

In Sub-Sahara Africa, a study on burnout among healthcare professionals indicated that burnout is mostly linked to institutional/work-related factors such as poor work environment, professional and interpersonal conflicts, emotional strain, and inadequate social support. The study recommended enhancing health infrastructure and implementing programs aimed at increasing awareness and also addressing symptoms of burnout through training programs focused on managing stress and enhancing resilience (13).

A survey in East Africa, on burnout among nurses, revealed a significant prevalence of emotional exhaustion and depersonalization. Heavy workload and insufficient provision of information have been primarily linked to burnout, whereas physical complaints are associated with challenging physical working conditions (40).

In the Sub-Saharan African context, burnout is primarily linked to poor work environments, professional conflicts, and emotional strain. High workloads and inadequate communication among healthcare staff are prevalent issues, emphasizing the urgent need for improved infrastructure and support mechanisms.

2.3.3 Factors associated with burnout in Tanzania

A study in Northern Tanzania, among labour and birth providers, identified factors such as high patient volume, understaffing, resource constraints, and low pay were identified as key contributors to burnout. In addition, a lack of familiarity with the concept of burnout results in providers being uninformed about this collective issue. Burnout is seldom acknowledged or tackled, thus persisting as a significant issue affecting both provider and patient well-being (14).

Another study on burnout among healthcare personnel in acute-care settings revealed that an increase on the length of the day-shift was linked to higher levels of burnout among work- related factors as well as reduced sleeping hours (night time), smoking, and lack of exercise were found to be highly linked with increased rates of burnout (10).

Tanzania's healthcare professionals face unique challenges, including high patient volumes, understaffing, and resource constraints. Financial pressures contribute to job dissatisfaction, while a lack of awareness about burnout hinders effective management and intervention strategies. Additionally, lifestyle factors such as reduced sleep and lack of physical activity further complicate the issue

2.3.4 COVID-19 Pandemic and Burnout

A study on UK healthcare workers during burnout during the COVID-19 pandemic, it was observed that healthcare workers faced increased workload, working in unfamiliar settings,

transitioning back to clinical practice from non-frontline positions, extensive media exposure and worries about access to adequate personal protective equipment (PPE), and concerns for the health of loved. These factors which collectively contribute to mental strain (41). Given that the well-being of health professionals can impact the quality of care they provide, supporting staff members may also have an indirectly impact patient outcomes.

The uncertainties brought about by the pandemic have also had an emotional and physical repercussion on a personal level and have influenced the shortage of labour force. A study examining the workforce impact of the pandemic revealed that 75% of physicians felt overwhelmed, with half of them considering a job change in amid the pandemic (42).

In Africa, individual factors associated with burnout during the pandemic, were inadequate training, isolation from families, fear of infection, stress of watching patients and colleagues dying, reduced earning, job dissatisfaction, years of experience, scepticism about the future (43). Institutional risk factors included inadequate resources and PPE, lack of formal mental health response, increased workload, staff shortage, stressful work environment (ICU and Emergency units), insufficient support from supervisors and institutions as well as community- level factors included the erosion of trust between communities and healthcare workers, societal stigma and discrimination, and the absence of social support were identified as contributing factors to burnout. Additionally the implementation of lockdown measures resulted in movement restrictions that further impacted the workforce. (44).

This study highlighted the prevalence of burnout among healthcare workers of Benjamin Mkapa Hospital and the factors associated, which may help to decrease knowledge gap that is currently lacking in Tanzania, as pointed out in the Muhimbili study on burnout, which called for further studies at regional and national levels. Also, this study may help call for necessary measures that can help healthcare work force and the institutions in curbing this growing concern.

2.4 Summary of Literature Gaps

Focus on Non-Acute Care Settings: Most existing studies primarily examine burnout in acute care environments, leaving non-acute care settings like outpatient clinics and long-term care facilities largely unexplored, particularly in Tanzania. This oversight means specific challenges and experiences of burnout remain underexplored and unaddressed.

Cultural Context and Perceptions: There is insufficient exploration of how cultural attitudes toward burnout in Tanzania impact recognition and management of the issue among healthcare professionals. Without understanding these cultural factors, interventions may not be effective or may not engage healthcare workers adequately, potentially maintaining the stigma surrounding burnout.

Longitudinal Studies: The absence of longitudinal study limits the ability to monitor burnout trends and evaluate the long term effectiveness of interventions over time.

Targeted Interventions: There is a lack of research on specific interventions that are culturally appropriate and effective for addressing burnout in Tanzanian healthcare settings.

Diverse Healthcare Roles: Current literature tends to focus on physicians and nurses, neglecting other essential roles within the healthcare system that may also experience burnout. This narrow focus may obscure the full extent of burnout across the healthcare workforce and limit the effectiveness of comprehensive interventions.

CHAPTER THREE

3.0 METHODOLOGY

3.1 Study area and study design

3.1.1 Study design

The study was an analytical cross-sectional study design with the use of quantitative method to assess prevalence of burnout among health care workers and its contributing factors at Benjamin Mkapa Hospital.

3.1.2 Study area

The Benjamin Mkapa Hospital is a tertiary teaching hospital of the University of Dodoma found within the university campus in Dodoma region. The hospital is 15 km away from the Dodoma city center. It serves approximately 1000 to 1200 patients of different cases per day as outpatient and has bed capacity of 500 beds with bed occupancy of 200 to 250 patients (Data collected from Human resources and Records department at Benjamin Mkapa Hospital). The hospital has 625 number of workers of different medical and non-medical cadres. It has 72 specialists, 98 General practitioners, 39 Nursing officers, 150 Assistant Nursing officers and 46 Enrolled Nurses (Data collected from Human resources and Records Department at Benjamin Mkapa Hospital). It being a tertiary referral hospital in the central zone, it receives patients from regions of Dodoma, Manyara, Singida, Tabora, Iringa, Njombe and Morogoro.

BMH was selected because it is a tertiary hospital, a zonal referral hospital, that carters to large number of people, who need specialized care. This made it a suitable study area, due to the large workload and complicated cases received at the hospital. This study helped to shed light on the prevalence of burnout the health workers are exposed to and its contributing factors.

3.2 Study population, sample selection and size

3.2.1 Study population

Healthcare workers at Benjamin Mkapa Hospital, which included doctors and nurses.

3.3 Eligibility criteria

3.3.1 Inclusion criteria:

Doctors and Nurses

3.3.2 Exclusion criteria:

Healthcare workers on leave that were not available to fill interview forms.

3.4 Sample selection

Stratified random sampling technique was used to select study participants, where the hospital staff were categorized into cadres i.e., doctors, nurses. Proportional subsamples were then allocated based on the population of each group. Finally, participants were randomly selected from the subgroups until the desired sample size was reached.

3.5 Sample Size

Sample size was determined using Yamane's Formula, hence

$n = N / (1+Ne^2)$

(n = sample size N = population of the study e = margin of error).

$n = 412 / (1 + 412 \times 0.05^2)$

n = 203

Considering a non-response rate of 10%, the adjusted sample size was 223

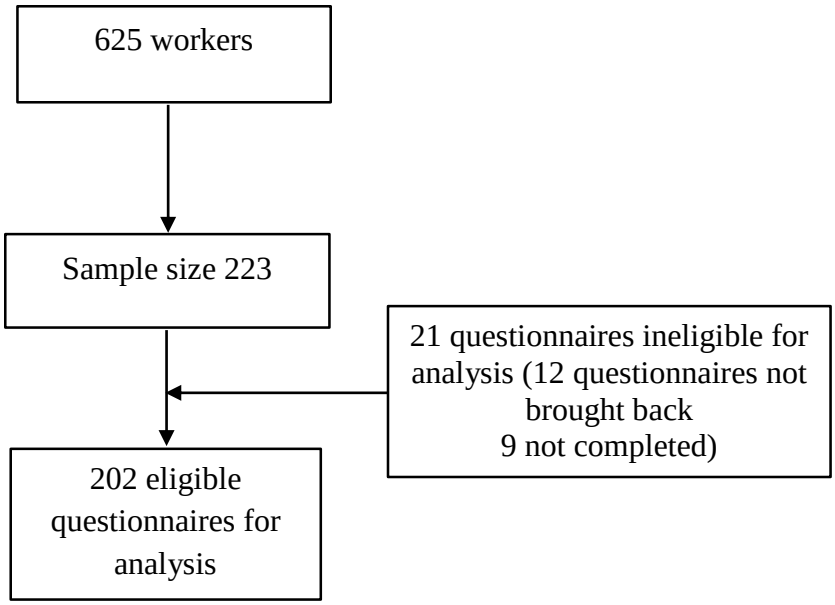


Figure 2: Diagram of sample flow chart showing number of participants in the study

From the diagram above, study participants were divided according to cadres, which were nursing and doctors. From the two groups, study participants were randomly selected and given questionnaires to fill. Out of the 223 questionnaires distributed, 12 questionnaires were not brought back, and 9 questionnaires were not fully completed hence making them ineligible. In total 202 questionnaires were analysed.

3.6 Variables

Variables were measured by using structured questions. Age was measured in years, sex was classified as male or female, marital status was indicated as married or single, cadre was indicated as doctor or nurse, work-life balance was assessed by self-reporting whether it was present or not, alcohol use and cigarette smoking was measured by absence or presence of the said action. Chronic health condition was assessed by the presence or absence of long-term illness, years of practice was measured through duration of work categorised in years, relationship with co-workers was measured by its presence or absence, work autonomy was also measured by asking if employees feel they have control or independence in decision making, perception of supervisor support was measured by asking if it is adequate or not, presence or absence of wellness programs was measured by

asking workers if they identify any program promoting health and well-being. Burnout was assessed using psychological scales using MBI that had the three subscales of burnout which were scored on a Likert scale.

3.6.1 Independent variables

i. **Socio-demographic and behavioural factors**: Age, sex, marital status, cadre, work-life balance, physical exercising, alcohol use, smoking, chronic health condition.

ii. Work related factors: years of practice, work hours, relationship with co-workers, number of staff, work autonomy, perception of supervisor support, wellness program.

3.6.2 Dependent variable:

Burnout

Burnout status was the outcome variable of this study, characterised as those with or without burnout.

Maslach Burnout Inventory was used to assess burnout across the three subscales which are emotional exhaustion, depersonalization, and personal accomplishment. High scores on both emotional exhaustion (>27) depersonalization (>13) and low scores on personal accomplishment (<31) are associated with increased burnout risk (43). Combination of the scores obtained from adding each subscale was used to obtain burnout score by comparing it to the cut off score (71) from MBI score that ranges between 0 to

3.7 Data collection methods

Data was collected using a structured self-administered questionnaire designed by the principal investigator. It comprised of two sections, section one had socio-demographic characteristics, relevant individual and work-related characteristics including cadre, number of working hours per day, working relationship with colleagues, support from supervisors, work autonomy, call perception, years of experience. Section two comprised of an adapted Maslach Burnout Inventory-Human Services Survey (MBI-HSS) designed to measure the presence of burnout.

3.7.1 Investigation tools and validity and reliability issues

The MBI has been extensively researched and shown to have good reliability and validity, making it a well-accepted tool for assessing burnout. It includes 22 items, measuring three dimensions: nine items measuring emotional exhaustion, five measuring depersonalization and eight measuring personal accomplishment and respondents are asked to rate each item on a 7-point frequency scale that ranges from 0 (never) to 6 (every day). Scores typically range from 0 to 54 for EE, 0 to 30 for DP and 0 to 48 for PA. The level of burnout is high if EE is ≥27, PA is ≤31, and DP is ≥13; moderate if EE is 17–26, PA is 38–32, and DP is 7–12; and low if EE is ≤16, PA is ≥39, and DP is ≤6. Traditionally, high scores on both emotional exhaustion and depersonalization and low scores on personal accomplishment are associated with increased burnout risk (45).

A pilot study was conducted among 15 participants to ensure validity and reliability of the data collection tool. Direct scoring was used for the items in each subscale (emotional exhaustion, depersonalization and personal accomplishments) by adding together the values of the burnout scale and the sum compared to the cut off marks.

3.8 Data management and analysis

3.8.1 Data Management

Data cleaning strategy was established, identifying and addressing duplicate entries, transcription of errors, and ensuring internal consistency was done by the principal Investigator (PI) who was responsible for both data entry and cleaning using statistical software SPSS.

3.8.2 Data Analysis

Basic descriptive statistics such as frequency and percent were used to describe the sample and the characteristics of the selected health care providers. Chi square test was used to test association of variables to burnout. Since the outcome variables had two responses, for burnout (0=No burnout, 1= burnout), Binary logistic regression model was used to determine burnout status. The result of the model was presented in the form of estimated odds ratios (OR). For burnout, OR showed the increase, or decrease in the likelihood of

health care providers to have burnout at a given level of the independent variable compared to those in the reference category. An estimate of OR > 1 indicated the likelihood of having burnout at a given level of the independent variable, is greater than that for the reference category. Similarly, an estimate of OR<1 specified that the chance of having burnout at a given level of the independent variable is less than that for the reference category. The statistical analysis for this study was conducted using Statistical Package for Social Sciences (SPSS) version 27, and significance for all statistical tests was determined at 95% level.

3.8.3 Data analysis plan

Objective	Analysis type	List of variables	Presentation
To assess prevalence of burnout among healthcare providers	Descriptive analysis	Variables related to burnout	Frequency, Percentage, Mean and Standard deviation
To assess work-related factors associated with healthcare provider burnout.	Inferential analysis	**Dependent variable** • Burnout **Independent variables** • Work related variables: work hours, work autonomy, supervision, number of staff in the team, perception of call duties, work-life balance, years of practice, wellness programs	Chi-square test of association and Binary logistic regression analysis. In the chi-square test, the statistical presentation was frequency, row percentage proportional, chi-square value and p-values. Whereas in binary logistic regression the presentation was in Crude Odd Ratio (OR), Adjusted Odd Ratio (AOR), 95%CI and p-values.
To assess socio-demographic and behavioral factors associated with healthcare provider	Inferential analysis	**Dependent variable** • Burnout **Independent variables** • Socio-demographic factors	Chi-square test of association and Binary logistic regression analysis. In the chi-square test, the

burnout		such as age, sex, marital status, presence of chronic health condition • Behavioral factors such as alcohol intake, cigarette smoking, physical exercises, job satisfaction	statistical presentation was frequency, row percentage proportion, chi-square value and p-values. Whereas in binary logistic regression the presentation was in Crude Odd Ratio (OR), Adjusted Odd Ratio (AOR), 95%CI and p-values.

3.9 Ethical issues

The proposal was submitted for ethical clearance to conduct the study through Muhimbili, University of Health and Allied Sciences (MUHAS), research and publications committee. All ethical issues were adhered to and addressed accordingly. Permission to conduct the study Permission to conduct the study at The Benjamin Mkapa Hospital was sought from the executive director through the department of training and research.

Written or verbal consent was obtained from the participants. Participants were informed about the topic of discussion and any queries were addressed by the principal investigator. Participants could decline in partaking in this study. No incentives were given to any participants for taking part in the study. Confidentiality was observed by using identification numbers instead of respondent names.

CHAPTER FOUR

4.0 RESULTS

4.1 Socio-Demographic characteristics of healthcare workers at Benjamin Mkapa Hospital

The study involved 202 health care workers, majority 105 (52%) were less than 30 years, 79 (39.1%) were between 31 to 40 years and 18 (8.9%) were above 41 years. Most of respondents 122 (60.4%) were male and 80 (39.6%) were female. Among them 107 (53.0%) were single and 95 (47.0%) were married. Table 1 below summarizes the socio-demographic characteristics of health care workers.

Table 1: Socio-Demographic characteristics of respondents (n=202)

Variable	**Frequency (Percent)**
Age	
Less than 30 years old	105 (52%)
31 to 40 years old	79 (39.1%)
41 and above years old	18 (8.9%)
Gender	
Male	122 (60.4%)
Female	80 (39.6%)
Marital status	
Married	95 (47%)
Single	107 (53%)
Smoking status	
Yes	5 (2.5%)
No	197 (97.5%)
Alcohol intake	
Yes	80 (39.6%)
No	122 (60.4%)
Do physical exercise	
Yes	110 (54.5%)
No	92 (45.5%)
Have a chronic health condition	
Yes	6 (3%)
No	196 (97%)

Table 2 below displays the descriptive results of work-related characteristics of respondent healthcare workers at Benjamin Mkapa Hospital. The data shows that 50.0% of the respondents were doctors and the remaining half were nurses. 139 (68.8%) of healthcare workers were from medical department and 63 (31.2%) from surgical department, majority 124 (61.4%) had less than five years of practice, 58 (28.7%) had five to ten years of practical experience and the remaining 20 (9.9%) had above ten years of practical experience. Many 111 (55) reported not full control of their work activities while the rest had.148 (73.3%) respondents reported having inadequate number of staff in their team compared to the remaining 54 (26.7%). Many of the co-workers (96.5%) had good relationship with each other compared to the few remaining. Majority of the respondents 116 (57.4%) had 8-hour shifts, followed by 67 (33.2%) with 12-hour shift, 14 (6.9%) with 24-hour shift and 5 (2.5%) with 36-hour shifts. Majority of respondents (58.9%) had stressful perception of call duties while the remaining didn't. There was inadequate supervision from supervisors as reported by the majority 53.5%. Many respondents (66.3%) reported thinking of changing institutions or leaving current field of work.171 (84.7%) reported absence of wellness programs in the institution and the same number of respondents reported not benefiting from the wellness programs that are available.

Table 2: Work-related characteristics of respondents (n=202)

Variable	**Freq. (Percent)**
Years of practice	
< 5 years	124 (61.4%)
5-10 years	58 (28.7%)
> 10 years	20 (9.9%)
Cadre	
Doctor	101 (50%)
Nurse	101 (50%)
Department	
Medical department	139 (68.8%)
Surgical department	63 (31.2%)
Work-life balance	
Yes	160 (79.2%)
No	42 (20.8%)

Have full control of your work activities/ decision making (work autonomy)	
Yes	91 (45%)
No	111 (55%)
Number of staff in your team adequate compared to the tasks to be handled	
Yes	54 (26.7%)
No	148 (73.3%)
Relationship with co workers	
Good	195 (96.5%)
Bad	7 (3.5%)
Work hours	
8-hour shift	116 (57.4%)
12-hour shift	67 (33.2%)
24-hour shift	14 (6.9%)
Perception of call duties	
Stressful	119 (58.9%)
Not stressful	83 (41.1%)
Perception of support from the supervisors	
Adequate	90 (44.6%)
Not adequate	108 (53.5%)
No support at all	4 (2%)
Perform non-clinical work, apart from your clinical work	
Yes	97 (48%)
No	105 (52%)
Ever thought of changing institutions or leaving your current field of work	
Yes	134 (66.3%)
No	68 (33.7%)
Presence of wellness program in the institution	

Yes	31 (15.3%)
No	171 (84.7%)
Benefit from the wellness programs available in your department/institution	
Yes	31 (15.3%)
No	171 (84.7%)

4.2 Prevalence of burnout among healthcare providers at Benjamin Mkapa Hospital

The prevalence of burnout was found to be 57.43%, at 95% confident interval (CI) the prevalence ranges 50.55% - 64.30%. High scores on emotional exhaustion and depersonalization, along with low scores on personal accomplishment were used to signify burnout in this study.

Table 3: Prevalence of Burnout among Healthcare Providers at Benjamin Mkapa Hospital

VARIABLE	PREVALENCE	95% CI
Burnout	57.43%	50.55 – 64.30

Figure 3 below shows overall descriptive results showing prevalence of burnout among healthcare providers at Benjamin Mkapa Hospital, with majority 116 (57%) of the participants having burnout.

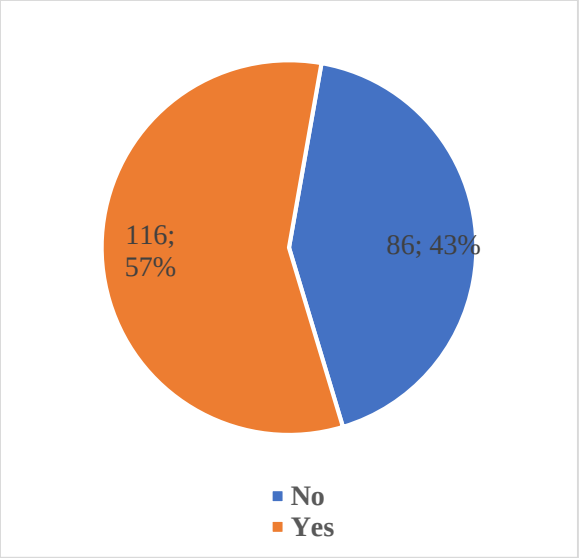


Figure 3: Burnout status among healthcare providers at Benjamin Mkapa Hospital.

Figure 2 below shows the three subscales of burnout. Most participants reported high level of emotional exhaustion 130 (64.4%), high level of depersonalization was reported among 89 (44.1%) participants and most- 95 (47.0%) reported low level of personal accomplishment.

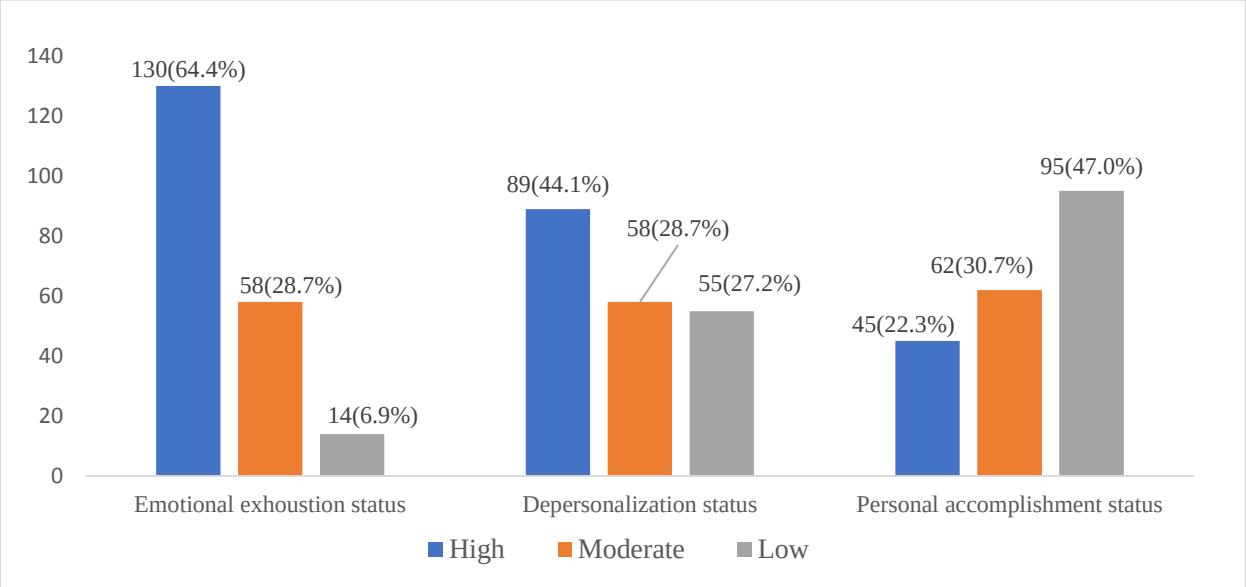


Figure 4: Dimensions of burnout among the healthcare providers at Benjamin Mkapa Hospital

Table 4 below shows the frequency distribution of responses to various statements related to burnout among healthcare workers at Benjamin Mkapa Hospital. The statements are divided into three categories: Emotional exhaustion, depersonalization, and personal accomplishment.

Table 4: Frequency responses on the three burnout dimensions (MBI-HSS)

Variable	Never	A few times a year or less	Once a month or less	A few times a month	Once a week	A few times a week	Every day
Emotional Exhaustion							
I feel emotionally drained from my work	1(0.5%)	14(6.9%)	26(12.9%)	49(24.3%)	24(11.9%)	51(25.2%)	37(18.3%)
I feel used up at the end of the workday (I feel I have no energy at the end of the work day)	4(2%)	20(9.9%)	27(13.4%)	61(30.2%)	39(19.3%)	37(18.3%)	14(6.9%)
I feel fatigued when I get up in the morning and have to face another day on the job.	18(8.9%)	47(23.3%)	29(14.4%)	17(8.4%)	16(7.9%)	44(21.8%)	31(15.3%)
Working with people all day is really a strain for me	15(7.4%)	18(8.9%)	33(16.3%)	51(25.2%)	15(7.4%)	36(17.8%)	34(16.8%)
I feel burned out from my work.	2(1%)	10(5%)	6(3%)	44(21.8%)	48(23.8%)	42(20.8%)	50(24.8%)
I feel frustrated by my job.	3(1.5%)	12(5.9%)	20(9.9%)	52(25.7%)	48(23.8%)	40(19.8%)	27(13.4%)
I feel I am working too hard on the job.	4(2%)	5(2.5%)	6(3%)	26(12.9%)	68(33.7%)	56(27.7%)	37(18.3%)

Working with people directly puts too much stress on me.	23(11.4%)	15(7.4%)	24(11.9%)	55(27.2%)	23(11.4%)	38(18.8%)	24(11.9%)
I feel like I am at the end of my rope.(I feel I can no longer cope)	57(28.2%)	12(5.9%)	18(8.9%)	15(7.4%)	9(4.5%)	46(22.8%)	45(22.3%)
Depersonalization							
I feel that I treat some patients as if they were impersonal objects.	39(19.3%)	22(10.9%)	15(7.4%)	14(6.9%)	13(6.4%)	49(24.3%)	50(24.8%)
I have become more unsympathetic toward people since I took this job.	38(18.8%)	41(20.3%)	32(15.8%)	21(10.4%)	28(13.9%)	32(15.8%)	10(5%)
I worry that this job is hardening me emotionally. (I worry that this job is making me uncaring)	10(5%)	21(10.4%)	28(13.9%)	47(23.3%)	13(6.4%)	47(23.3%)	36(17.8%)
I do not really care what happens to some recipients.	32(15.8%)	34(16.8%)	40(19.8%)	31(15.3%)	24(11.9%)	28(13.9%)	13(6.4%)
I feel patients blame me for some of their problems.	6(3%)	26(12.9%)	37(18.3%)	41(20.3%)	35(17.3%)	37(18.3%)	20(9.9%)
Personal accomplishment							

I can easily understand how many my recipients feel about things	9(4.5%)	8(4%)	15(7.4%)	21(10.4%)	42(20.8%)	74(36.6%)	33(16.3%)
I deal very effectively with the problems of my recipients.	12(5.9%)	11(5.4%)	19(9.4%)	49(24.3%)	49(24.3%)	35(17.3%)	27(13.4%)
I feel I am positively influencing other people's lives through my work.	8(4%)	21(10.4%)	14(6.9%)	29(14.4%)	39(19.3%)	61(30.2%)	30(14.9%)
I feel very energetic.	11(5.4%)	6(3%)	22(10.9%)	32(15.8%)	44(21.8%)	61(30.2%)	26(12.9%)
I can easily create a relaxed atmosphere with my recipients.	8(4%)	13(6.4%)	14(6.9%)	48(23.8%)	41(20.3%)	40(19.8%)	38(18.8%)
I feel very happy working closely with my recipients.	10(5%)	17(8.4%)	14(6.9%)	47(23.3%)	42(20.8%)	45(22.3%)	27(13.4%)
I have accomplished many worthwhile things in this job.	6(3%)	22(10.9%)	22(10.9%)	36(17.8%)	40(19.8%)	48(23.8%)	28(13.9%)
In my work, I deal with emotional problems very calmly	10(5%)	13(6.4%)	16(7.9%)	49(24.3%)	47(23.3%)	43(21.3%)	24(11.9%)

The findings from the table suggest several important implications regarding the emotional and psychological well-being of the respondents:

Emotional Exhaustion

1. High Frequency of Emotional Drain: The table shows that a significant number of respondents feel emotionally drained from their work frequently (a few times a week). This highlights the intense emotional demands of their jobs, which can lead to burnout if not addressed.

2. End-of-Day Fatigue: Many respondents feel used up at the end of the workday, indicating that their work is physically and mentally taxing. This can affect their overall well-being and productivity.

3. Morning Fatigue: The fact that many feel fatigued in the morning suggests that the stress and exhaustion from work carry over into their personal lives, affecting their ability to rest and recover.

4. Strain from Interpersonal Interactions: Working with people all day is a major source of strain, which can lead to emotional exhaustion and burnout. This underscores the need for better support systems and stress management strategies.

Depersonalization

1. Emotional Detachment: The high frequency of treating patients as impersonal objects and becoming unsympathetic indicates a level of emotional detachment. This can negatively impact the quality of care provided and patient satisfaction.

2. Emotional Hardening: Many respondents worry that their job is making them emotionally hardened, which can lead to a lack of empathy and compassion in their professional interactions. This is a critical issue that needs to be addressed to maintain a high standard of care.

Personal Accomplishment

1. Mixed Feelings of Accomplishment: While some respondents feel they are positively influencing others and dealing effectively with problems, others do not feel a strong sense of accomplishment. This mixed perception can affect job satisfaction and motivation.

2. Energy and Enthusiasm: A significant number of respondents feel energetic and happy working closely with their recipients, which is a positive sign. However, the presence of emotional exhaustion and depersonalization can undermine these positive feelings over time.

Overall Justification

- Highlighting Areas for Improvement: The tables help identify specific areas where employees are struggling, such as emotional exhaustion and depersonalization. This information is crucial for designing targeted interventions to improve employee well-being.

- Supporting Organizational Change: By providing detailed data on employee experiences, the tables support the case for organizational changes, such as implementing stress management programs, providing counseling services, and adjusting workloads.

- Monitoring Employee Well-Being: Regularly collecting and analyzing this type of data can help organizations monitor employee well-being over time and identify trends that need to be addressed.

4.3 Work-related factors associated with healthcare provider burnout at Benjamin Mkapa Hospital

Findings on table 5 indicate that years of practice, number of staff in the team (staff adequacy), cadre and stressful perception of call duties were significantly associated with burnout status (p-value <0.05).

Table 5: Work-related factors associated with healthcare provider burnout at Benjamin Mkapa Hospital

Variables	**Burnout Status**		**Chi-square**	**P-value**
	No	**Yes**		
Years of practice			**7.27**	**0.026**
< 5 years	47(37.9%)	77(62.1%)		
5-10 years	25(43.1%)	33(56.9%)		
> 10 years	14(70.0%)	6(30.0%)		
Cadre			**3.97**	**0.046**
Doctor	50(49.5%)	51(50.5%)		
Nurse	36(35.6%)	65(64.4%)		
Work-life balance			0.10	0.757
Yes	69(43.1%)	91(56.9%)		
No	17(40.5%)	25(59.5%)		
Have full control of your work activities/ decision making (work autonomy)			1.483	0.223
Yes	43(47.3%)	48(52.7%)		
No	43(38.7%)	68(61.3%)		
Number of staff in your team adequate compared to the tasks to be handled			**12.53**	**< 0.001**
Yes	34(63.0%)	20(37.0%)		

No	52(35.1%)	96(64.9%)		
Relationship with co workers			0.582	0.446
Good	84(43.1%)	111(56.9%)		
Bad	2(28.6%)	5(71.4%)		
Work hours			2.262	0.520
8-hour shift	52(45.2%)	63(54.8%)		
12-hour shift	28(41.8%)	39(58.2%)		
24-hour shift	5(35.7%)	9(64.3%)		
Perception of call duties			**17.99**	**< 0.001**
Stressful	36(30.3%)	83(67.7%)		
Not stressful	50(60.2%	33(39.8%)		
Perception of support from the supervisors			2.65	0.266
Adequate	41(45.6%)	49(54.4%		
Not adequate	42(38.9%)	66(61.1%)		
No support at all	3(75.0%)	1(25.0%)		
Presence of wellness programs			1.99	0.158
Yes	10(31.3%)	22(68.8%)		
No	76(44.7%)	94(55.3%)		
Benefit from the wellness programs available in the department/institution			0.40	0.527
Yes	12(37.5%)	20(62.5%)		
No	74(43.5%)	96(56.5%)		

Results from a multi-variable logistic regression (AOR) for work-related factors associated with healthcare provider burnout at Benjamin Mkapa Hospital show that healthcare workers with less than 5 years of practice were7.42 times more likely of getting burnout compared to those with great than 10 years, healthcare workers with 5-10 years of practice were5.78 times more likely of getting burnout compared to those with great than 10 years. Healthcare workers whose teams were adequate compared to the tasks to be handled were 68% less likely to get burnout compared to those whose team was inadequate compared to the tasks to be handled. In perception of call duties, healthcare workers who perceived stressful call duties were 3.82 times more likely to get burnout compared to those who had no stress in their call duties.

Table 6: Crude and Adjusted Odd Ratio for work-related factors associated with healthcare provider burnout at Benjamin Mkapa Hospital

Variables	**COR at 95%**	**P-value**	**AOR at 95%**	**P-value**
Years of practice				
< 5 years	**3.82(1.37,10.37)**	**0.010**	**7.42(2.44,22.52)**	**< 0.001**
5-10 years	**3.08(1.04,9.15)**	**0.043**	**5.78(1.78,18.79)**	**0.004**
> 10 years	Ref.		Ref.	
Cadre				
Doctor	**0.57(0.32,0.99)**	**0.004**	0.61(0.34,1.09)	0.093
Nurse	Ref			
Number of staff in your team adequate compared to the tasks to be handled				
Yes	**0.32(0.17,0.61)**	**< 0.001**	**0.29(1.14,0.58)**	**< 0.001**
No	Ref.		Ref.	
Perceive call duties				
Stressful	**3.49(194,6.29)**	**< 0.001**	**3.82(2.01,7.23)**	**< 0.001**
Not stressful	Ref.		Ref.	

4.4 Socio-demographic and Behavioral Factors associated with Healthcare Provider Burnout at Benjamin Mkapa Hospital

The table 7 below shows chi- square test results of individual-related factors associated with healthcare provider burnout at Benjamin Mkapa Hospital. Age of health care workers, marital status and presence of chronic health condition were significantly associated with burnout (p-value < 0.01).

Table 7: Socio-demographic and behavioral factors associated with healthcare provider burnout at Benjamin Mkapa Hospital

Variables	**Burnout Status**		**Chi-square**	**P-value**
	No	**Yes**		
Age			**10.41**	**0.005**
Less than 30 years old	39(37.1%)	66(62.9%)		
31 to 40 years old	33(41.8%)	46(58.2%)		
41 and above years old	14(77.8%)	4(22.2%)		
Gender			0.79	0.373
Male	55(45.1%)	67(54.9%)		
Female	34(42.5%)	46(57.5%)		
Marital Status			**4.64**	**0.031**
Married	48(50.5%)	47(49.5%)		
Single	38(35.5%)	69(64.5%)		
Smoking Status			0.01	0.906
Yes	2(40.0%)	3(60.0%)		
No	84(42.6%)	113(57.4%)		
Alcohol intake			1.40	0.238
Yes	30(37.5%)	50(62.5%)		
No	52(42.6%)	70(57.4%)		
Physical Exercise			1.41	0.234
Yes	51(46.4%)	59(53.6%)		
No	40(43.5%)	52(56.5%)		
Presence of chronic health condition			**4.20**	**0.040**
Yes	5(583.3%)	1(16.7%)		
No	81(41.3%)	115(58.7%)		

Perform non-clinical work, apart from clinical work			0.93	0.629
Yes	43(44.3%)	54(55.7%)		
No	48(41.3%)	61(58.7%)		

Table 8 below shows the results of multi-variable logistic regression analysis (AOR) for socio-demographic and behavioral factors associated with healthcare provider burnout at Benjamin Mkapa Hospital. Health care workers with less than 30 years of age were 4.18 times more likely of getting burnout compared to those with 41 and above years, health care workers with 31- 40 years of age were 4.17 times more likely of getting burnout compared to those with 41 and above years.

Table 8: Crude and Adjusted Odd Ratio for Socio-demographic and behavioral factors associated with healthcare provider burnout at Benjamin Mkapa Hospital.

Variables	**COR at 95%**	**P-value**	**AOR at 95%**	**P-value**
Age				
Less than 30 years old	**5.92(1.82,19.28)**	**0.003**	**4.18(1.18,14.70)**	**0.026**
31 to 40 years old	**4.88(1.47,16.16)**	**0.010**	**4.17(1.23,14.12)**	**0.022**
41 and above years old	Ref.			
Marital Status				
Married	**0.54(0.31,0.95)**	**0.032**	0.681(0.36,130)	0.241
Single	Ref.			
Presence of chronic health condition				
Yes	0.14(0.01,1.23)	0.076		
No	Ref.			

Measurement of Multicollinearity

In the work-related factors, the independent variables in the model are essentially uncorrelated, as the variance inflation factor (VIF) is approximately 1, which is less than 5. This indicates that the independent variables mentioned are not correlated with each other. Additionally, the tolerance values show that all independent variables explain over 90% of their own variance, according to the eigenvalues, as displayed in Table 9 below**.**

Table 9: Detection of multicollinearity problem in work-related factors

Independent variable	**Collinearity Statistics**	
	Tolerance	**VIF**
Years of practice	0.988	1.013
Cadre	0.995	1.005
Number of staff in your team adequate compared to the tasks to be handled	0.968	1.033
Perceive call duties	0.969	1.032

Also in socio-economic and behavioral factors, the independent variables in the model are essentially uncorrelated, as the variance inflation factor (VIF) is approximately 1, which is less than 5. This indicates that the independent variables mentioned are not correlated with each other, as displayed in Table 10 below

Table 10: Detection of multicollinearity problem in Sociol demographic and behavior

Independent variable	**Collinearity Statistics**	
	Tolerance	**VIF**
Age of Healthcare	0.746	1.340
Marital status	0.789	1.267
Have a chronic health condition	0.91	1.099

CHAPTER FIVE

5.0 DISCUSSION

5.1 Discussion

5.1.1 Prevalence of Burnout among healthcare workers at Benjamin Mkapa Hospital

This study revealed a high prevalence of burnout. This can be attributed to Benjamin Mkapa Hospital being a tertiary hospital, a zonal referral hospital, that carters to large number of people, who need specialized care. High workload in turn leads to high emotional and physical demand that takes a toll on healthcare workers, hence the high prevalence of burnout.

Results of studies on burnout are controversial, with some studies revealing alarmingly high rates of burnout, while other studies finding much lower rates. Our study revealed prevalence of 57%, which is within the range of burnout reported in sub-Sahara Africa (13). It is slightly lower than the prevalence found among studies done in Tanzania, where prevalence of 62% was found among acute care settings in Muhimbili National hospital, and 70% among physicians and 67% of emergency medicine providers at Bugando hospital (11). The difference in the prevalence of burnout syndrome across the studies can be explained by variations in the nature of health system. The significance of this problem threatens well-being of healthcare workers which in turn puts patient's safety at risk.

Emotional exhaustion and depersonalization were prevalent. The study found that a significant majority of participants reported high levels of emotional exhaustion. It often results from prolonged exposure to demanding work environments and high patient caseloads without adequate recovery time. High levels of emotional exhaustion among participants in this study align with most global research on burnout among healthcare workers. A study in Kenya found high levels of emotional exhaustion to be attributed to stressors such as workload and working conditions (46). Similarly studies done in

Muhimbili National Hospital in acute care settings (10) among residents (34) and in Bugando Hospital (11) showed high rates of emotional exhaustion.

Nearly half of the participants experienced a high level of depersonalization. Depersonalization refers to developing negative or cynical attitudes towards patients, characterized as being detached, impersonal or treating them as objects rather than individuals. It can occur as a coping mechanism in response to overwhelming job demands and interpersonal stress within healthcare settings. A systematic review highlighted how common and significant depersonalization was among burnt out healthcare workers and showed its effects on the workers mental health and patient care (12). In Nigeria (53) and Malawi (54) similar phenomenon was observed among healthcare workers. In contrast to emotional exhaustion and depersonalization, a smaller proportion of participants reported low levels of personal accomplishment. This indicates that some healthcare workers may feel a diminished sense of achievement or fulfillment in their work roles, possibly due to burnout-related factors impacting their motivation and satisfaction. A study in south Africa among nurses showed that the nurses felt ineffective and doubted the significance of their work (52).

5.1.2 Work-related Factors associated with burnout among healthcare workers at Benjamin Mkapa Hospital

This specific study shed light on work/institutional factors being of high association to burnout than individual factors. Studies in sub-Saharan Africa also found that the workplace environment was the main factor linked to burnout, encompassing similar reasons such as career dissatisfaction, working conditions, support staff, and perceived workload (13).

This study showed a high association of burnout to years of practice, specifically, those with less than 5 years of practice exhibited higher burnout levels compared to those with more experience. Similar to a study done in China which suggested early career healthcare

workers are prone to burnout (47).This was attributed to the fact that early-career professionals often faced heavy work-loads and longer hours early in their careers.

Inadequate staffing was significantly associated with burnout status. Similar studies such as that done in Nigeria, showed that inadequate staffing led to increase workload and stress among healthcare workers as the task given are too much to handle among those present (48).Another study in Ghana showed the surge in patient numbers without a corresponding increase in healthcare staff led to high demand placed on healthcare workers leading to high levels of burnout (49).

Stressful call duties were significantly associated with burnout in this study. A systematic review identified several studies across the continent, including countries such as South Africa, Nigeria, Ghana, and Ethiopia, which reported high levels of burnout among healthcare providers, especially those on demanding call schedules (12). In Namibia, a study done in maternity unit highlighted higher prevalence of burnout due to intense call schedules with doctors reporting physical and mental exhaustion (50).Demanding nature of calls, and inadequate rest contributed to higher rates of burnout.

5.1.3 Socio-demographic and behavioral factors associated with burnout among healthcare workers at Benjamin Mkapa Hospital

Furthermore, this study highlighted the association between younger age and high level of burnout. This was consistent with research in China (51) and Nigeria (48) which showed higher levels of burnout among the young due to their less developed coping mechanisms and higher work demands early in their careers. The finding that older physicians are less likely to experience burnout could be attributed to their acquired skills and experiences. Over time, older physicians have developed strategies to anticipate, cope with, and prepare for challenging situations through their daily practice and past encounters with stressful events. This acquired expertise allows them to better manage their emotions and adapt to demanding situations, making it easier for them to engage in their work and maintain a positive outlook (52).

Factors such as gender, marital status, cadre, alcohol intake, smoking status, exercising, have significance in burnout in other studies. However, they had no statistically significant relationship with burnout in this study. Also work-related factors such as work autonomy, relationship with co-workers, work hours, perception of supervisor support, and wellness programs availability or benefit did not show significant association with burnout in this study.

5.2 Study Strengths and limitations

The results from the cross-sectional study only refer to one point of time limiting the ability to draw conclusions about causality or changes in burnout levels over time. Another limitation to consider is that the respondents answered self-administered questionnaires which can be subject to response bias or inaccurate self-assessment. Also this study didn't emphasize on the physical aspect of burnout, instead concentrated on the emotional aspect. Despite the shortcomings however, this study helped quantify the prevalence of burnout at tertiary level hospital, Benjamin Mkapa Hospital, highlighting its widespread nature and impact on individual level and even organization level. This data is crucial for healthcare administrators and policymakers in assessing the scale of the problem. This research identified the various factors contributing to burnout which were mostly work related. This understanding allows for targeted interventions to address these factors and mitigate burnout risks. Research on burnout encourages ongoing dialogue and education among healthcare professionals about the importance of self-care, stress management, and seeking help when needed. It promotes a culture that values mental health and well-being as integral to professional practice.

CHAPTER SIX

6.0 CONCLUSION AND RECOMMENDATIONS

6.1 CONCLUSION

The study revealed a concerning prevalence of burnout among healthcare workers. It showed that those with less years of practice were prone to burnout, it also showed that smaller number of staff in the team compared to tasks given contributed to burnout as well as those that perceived their call duties to be stressful, were prone to burnout. Also, those who were younger were predisposed to burnout compared to their elder counterparts. It is crucial for the hospital to address burnout among its healthcare workers, focusing on these identified factors.

6.2 RECOMMENDATIONS

The following are recommended in response to the factors associated to burnout in this study

i. To address high prevalence of burnout among workers, I recommend regular assessment of staff well-being and burnout levels through surveys and feedback. Integration of wellness programs such as group exercises, departmental retreats and peer support groups would address burnout.
ii. To address the issue of burnout among young healthcare workers, I recommend mentor-ship programs that would pair young healthcare workers with those with more experience to provide guidance and support.
iii. On stressful perception of call duties, I recommend flexible schedules that would allow adequate rest periods between calls and availability of on-call back up. Also encouraging work-life balance policies, such as flexible scheduling and sufficient rest periods, is essential.

iv. Nevertheless, further research is needed to better understand the underlying factors contributing to burnout in different healthcare environments. This will enable the development of more targeted and effective workplace policies and interventions.

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8.0 APPENDICES

8.1 Appendix 1: Informed Consent Form (English Version)

MUHIMBILI UNIVERSITY OF HEALTH AND ALLIED SCIENCES

SCHOOL OF PUBLIC HEALTH AND SOCIAL SCIENCES

Identification number: _____

Greetings,

My name is JESSE MAGALI MNYUNE, a Masters of public health student at Muhimbili University of Health and Allied Sciences (MUHAS) under the supervision of Dr Happiness Saronga and Ms Witness Axwesso. As part of my course, I am conducting a research study to assess the prevalence of burnout and its associated factors among healthcare providers at Benjamin Mkapa Hospital.

Purpose of the study: This study aims at helping us understand the prevalence, and the factors associated with burnout among healthcare workers. This would help us develop effective interventions at both individual and organizational levels which would in turn ensure well-being of the healthcare work force.

Who will be in the study: Healthcare providers at Benjamin Mkapa Hospital.

What participation involves: If you consent to take part in this study, you will complete a questionnaire with questions related to burnout.

Benefits of the study: Participating in this study will not results in any direct material benefits. However, your participation will assist us, in shedding light on the extent of burnout within facility, and the factors that impact the workers at the facility. This in turn would help us in finding solutions to healthcare provider wellbeing, which will consequently help in patient safety, and wellbeing.

Potential risks of the study: We do not anticipate any significant adverse or harmful effects on participants in our study.

Freedom to participate in the study: involvement in this study is entirely optional.

Confidentiality: All the information collected on these forms will remain confidential. No information that could be used to identify you will be collected.

In case of any question: If you have questions about the study or you want further information you should feel free to contact Dr Jesse M. Mnyune, the investigator, Tel: +255 743877145, or the supervisors Dr Happiness Saronga Tel 0622590584 or Ms Witness Axwesso +255717811622.

If you have any inquiries regarding your rights as a participant, please feel free to reach out to Dr, Nahya Mohamed, Chairperson of Research and Publications Committee, MUHAS. P.O Box 65001, Dar es salaam-Tanzania, Tel +255-713250074.

Informed consent for participants: I have reviewed the details of the proposed study with the title above. I have engaged in discussions with investigator, asked questions, and I am content that I understand the study's requirements. My queries have been addressed satisfactorily and I consent to participate in this study:

_____ Participants signature Date _____

8.2 Appendix 2: Fomu ya ridhaa Swahili Version

MUHIMBILI UNIVERSITY OF HEALTH AND ALLIED SCIENCES

SCHOOL OF PUBLIC HEALTH AND SOCIAL SCIENCES

Namba ya Utambulisho…….

Habari,

Naitwa JESSE M MNYUNE mwanafunzi wa shahada ya uzamili ya ya Afya ya Umma katika Chuo Kikuu cha Afya na Sayansi Shirikishi Muhimbili (MUHAS) chini ya usimamizi wa Dk Happiness Saronga na Bi Witness Axwesso.Kama sehemu ya kutimiza mahitaji ya kozi yangu, ninafanya utafiti ili kutathmini kuenea kwa msongomoto kati ya watoa huduma za afya na katika Hospitali ya Benjamin Mkapa.

Madhumuni ya Utafiti : utafiti huu unalenga kutusaidia kuelewa kuenea, sababu na matokeo ya msongomoto miongoni mwa wafanyakazi wa afya, ambao katika siku zijazo utatusaidia kuendeleza afya madhubuti kwa watu binafsi na vya shirika ambavyo vitahakikisha ustawi wa wafanyikazi wa afya.

Utaratibu wa utafiti: Ukikubali kushiriki katika utafiti huu, utajaza dodoso na maswali yanayohusiana na msongomoto na makosa ya matibabu.

Manufaa yanayotarajiwa: Hakutakuwa na manufaa ya moja kwa moja ya ushiriki katika utafiti huu. Hata hivyo, ushiriki wako utatusaidia, kutoa mwanga juu ya jinsi tatizo la msongomoto, ni kubwa katika kituo, mambo yanayohusiana na uchovu unaoathiri hasa wafanyakazi wa kituo, na ikiwa uchovu unahusiana na usalama wa mgonjwa. Hili nalo litatusaidia katika kutafuta suluhu kwa ustawi wa watoa huduma ya afya, ambayo kwa hiyo itasaidia katika usalama wa mgonjwa, na ustawi.

Hatari zinazowezekana: Hatutarajii madhara yoyote makubwa yasiyotakikana au madhara yanayohusika katika utafiti wetu kwa washiriki.

Usiri: Taarifa zote zilizokusanywa kwenye fomu hizi zitabaki kuwa siri. Hakuna taarifa ambayo inaweza kutumika kukutambulisha itakusanywa

Kwa mawasiliano Iwapo kuna swali lolote kuhusu utafiti huu, tafadhali jisikie huru kuwasiliana na mpelelezi mkuu, Jesse M Mnyune, nambari ya simu ya mkononi (+255 743 877 145) au wasimamizi wangu Dr Happiness Saronga Tel 0622590584 na Mrs Witness Axwesso +255717811622.

Kama una swali lolote kuhusu haki zako kama mshiriki wa huu utafiti, unaweza kuwasiliana na Dk, Nahya Mohamed, Mwenyekiti wa Kamati ya Utafiti na Machapisho, MUHAS. P.O Box 65001, Dar es Salaam-Tanzania, nambari ya simu ya mkononi (+255-713250074).

Idhini ya ufahamu kwa washiriki: Nimepitia kwa makini yaliyomo katika fomu hii na kuelewa, maswali yangu yamejibiwa vyema na nimeridhika kwamba ninaelewa kikamilifu maudhui ya utafiti. Nimekubali kushiriki katika utafiti huu.

Saini ya Mshiriki…….. Tarehe…….

8.3 Appendix 3: Questionnaire

MUHIMBILI UNIVERSITY OF HEALTH AND ALLIED SCIENCES

SCHOOL OF PUBLIC HEALTH AND SOCIAL SCIENCES

Assessing Prevalence and factors associated with Healthcare Provider Burnout at Benjamin Mkapa Hospital

Part 1: Personal Information

1. Age
2. Gender
   a. Male
   b. Female
3. Marital status
   a. Married
   b. Single
4. Cadre
   a. Doctor
   b. Nurse
5. Department
   a. Medical department
   b. Surgical department
6. Years of practice
   a. < 5 years
   b. 5-10 years

c. > 10 years

7. Are you able to balance work and social activities outside of work

a. Yes

b. No

8. Do you smoke

a. Yes

b. No

9. Do you take alcohol

a. Yes

b. No

10. Do you exercise

a. Yes

b. No

11. Do you have a chronic health condition

a. Yes

b. No

12. Do you have full control of your work activities/ decision making (work autonomy)

a. Yes

b. No

13. Is the number of staff in your team adequate compared to the tasks to be handled

a. Yes

b. No

14. Relationship with co workers

a. Good

b. Bad

15. Work hours

a. 8-hour shift

b. 12-hour shift

c. 24-hour shift

d. >36-hour shift

16. How do you perceive call duties?

a. Stressful

b. Not stressful

17. Perception of support from the supervisors

a. Adequate

b. Not adequate

c. No support at all

18. Do you also perform non-clinical work, apart from your clinical work?

a. Yes

b. No

19. Have you ever thought of changing institutions or leaving your current field of work?

a. Yes

b. No

20. Does your department/institution have a wellness program such as providing free lunch, financial counselling, volunteer opportunities, health education and physical activities such as team games?

a. Yes

b. No

21. Do you benefit from the wellness programs available in your department/institution?

a. Yes

b. No

Part 2: MBI-Human Services Survey

MBI-HSS is tailored for individuals working in the human services professions, making it suitable for respondents such as nurses, physician, healthcare aides and social workers.it is widely acknowledged as the leading tool for measuring of burnout. This instrument focuses on three key scales: emotional exhaustion, depersonalization and personal accomplishment.

MBI–Human Services Survey							
How Often	0	1	2	3	4	5	6
	Never	A few times a year or less	Once a month or less	A few times a month	Once a week	A few times a week	Every day

How Often

0 - 6 Statements

1. I feel emotionally drained from my work.

2. I feel used up at the end of the workday (I feel I have no energy at the end of the work day)

3. I feel fatigued when I get up in the morning and have to face another day on the job.

4. I can easily understand how many my recipients feel about things.

5. I feel that I treat some patients as if they were impersonal objects.

6. Working with people all day is really a strain for me.

7. I deal very effectively with the problems of my recipients.

8. I feel burned out from my work.

9. I feel I am positively influencing other people's lives through my work.

10. I have become more unsympathetic toward people since I took this job.

11. I worry that this job is hardening me emotionally. (I worry that this job is making me uncaring)

12. I feel very energetic.

13. I feel frustrated by my job.

14. I feel I am working too hard on the job.

15. I do not really care what happens to some recipients.

16. Working with people directly puts too much stress on me.

17. I can easily create a relaxed atmosphere with my recipients.

18. I feel very happy working closely with my recipients.

19. I have accomplished many worthwhile things in this job.

20. I feel like I am at the end of my rope.(I feel I can no longer cope)

21. In my work, I deal with emotional problems very calmly.

22. I feel patients blame me for some of their problems.

8.4 Appendix 4: Dodoso

MUHIMBILI UNIVERSITY OF HEALTH AND ALLIED SCIENCES

SCHOOL OF PUBLIC HEALTH AND SOCIAL SCIENCES

Sehemu ya 1: Habari za kibinafsi

1. Umri
2. Jinsia
   a. Mwanaume
   b. Mwanamke
3. Hali ya ndoa
   a. Ndoa
   b. Hajaoa/hajaolewa
4. Kada
   a. Daktari
   b. Muuguzi
5. Idara
   a. Idara ya matibabu
   b. Idara ya upasuaji
6. Miaka ya kufanya kazi
   a. chini ya miaka 5
   b. Miaka 5-10
   c. > miaka 10
7. Je una muda wa kujihusisha na shughuli za kijamii nje ya muda wa kazi

a. ndio

b. hapana

8. Je, unavuta sigara

a. Ndio

b. Hapana

9. Je, unakunywa pombe

a. Ndio

b. Hapana

10. Je, unafanya mazoezi

a. Ndio

b. Hapana

11. Je una maradhi yoyote ya muda mrefu

a. Ndio

b. Hapana

12. Je una uhuru wa kufanya maamuzi katika kitengo chako cha kazi bila vizuizi

a. Ndio

b. Hapana

13. Je, idadi ya wafanyakazi katika timu yako inatosha ikilinganishwa na kazi zinazopaswa kushughulikiwa

a. Ndio

b. Hapana

14. Uhusiano na wafanyakazi wenza

a. Mzuri

b. Mbaya

15. Saa za kazi

a. Zamu ya saa 8

b. Zamu ya saa 12

c. Zamu ya saa 24

d. Zamu zaidi ya saa 36

16. Je, unaonaje kazi za zamu?

a. Inachosha

b. Haichoshi

17. Mtazamo wa msaada kutoka kwa wasimamizi

a. Inatosha

b. Haitoshi

c. Hakuna msaada hata kidogo

18. Je, wewe hufanya kazi zisizo za hospitali, mbali na kazi yako?

a. Ndio

b. Hapana

19. Je, umewahi fikiria kuhama taasisi au kuacha kazi ya fani uliyopo sasa

a. Ndio

b. Hapana

20. Je idara/taasisi yako ina mpango wa ustawi kama vile kutoa chakula cha mchana bure, ushauri wa kifedha, fursa za kujitolea, elimu ya afya na michezo

a. Ndio

b. Hapana

21. Je unanufaika na program za ustawi zilizopo katika idara/taasisi yako

a. Ndio

b. Hapana

Sehemu ya 2: MBI-Human Services Survey (Swahili Version)

MBI-HSS iliyoundwa kwa ajili ya wataalamu katika huduma za binadamu, inafaa kwa waliojibu kama vile wauguzi, daktari, misaada ya afya na wafanyakazi wa kijamii. inatambuliwa kama kipimo kikuu cha uchovu. Inashughulikia mizani mitatu ambayo ni uchovu wa kihemko, ubinafsishaji na utimilifu wa kibinafsi.

MBI–Human Services Survey (Swahili version)							
Mara ngapi	0	1	2	3	4	5	6
	Kamwe	Mara chache kwa mwaka chini	Mara moja aukwa mwezi au chini	Mara chache kwa mwezi	Mara moja kwa wiki	Mara chache kwa wiki	Kila siku

Mara ngapi

0 - 6 Taarifa

1. Ninahisi kuchoka kihisia kutokana na kazi yangu.

2. Ninahisi kuchoka kupita kiasi mwishoni mwa siku ya kazi.

3. Ninahisi uchovu ninapoamka asubuhi na kulazimika kukabiliana na siku nyingine nikiwa kazini.

4. Ninaweza kuelewa kwa urahisi ni wangapi wateja wangu wanaelewa mambo tunayozungumzia.

5. Ninahisi kuwatendea baadhi ya wateja kana kwamba ni vitu visivyo na utu.

6. Kufanya kazi na watu siku nzima ni ngumu sana kwangu.

7. Ninashughulika kwa ufanisi matatizo ya wagonjwa wangu.

8. Ninahisi kuchoshwa na kazi yangu.

9. Ninahisi ninaleta athari chanya katika maisha ya watu wengine kupitia kazi yangu.

10. Nimekuwa sihurumii watu zaidi tangu nilipochukua kazi hii.

11. Nina wasiwasi kuwa kazi hii inanitia ugumu kihisia.

12. Ninahisi mwenye nguvu.

13. Ninahisi kuchanganyikiwa na kazi yangu.

14. Ninahisi ninafanya kazi kwa bidii sana.

15. Sijali sana kile kinachotokea kwa baadhi ya wagonjwa.

16. Kufanya kazi na watu moja kwa moja hunipa msongo wa mawazo sana.

17. Ninaweza kuunda mazingira ya utulivu na wapokeaji wangu kwa urahisi.

18. Ninajisikia furaha sana kufanya kazi kwa karibu na wagonjwa wangu.

19. Nimetimiza mambo mengi yenye manufaa katika kazi hii.

20. Ninahisi kama kukata tamaa.

21. Katika kazi yangu, ninakabiliana na matatizo ya kihisia kwa utulivu sana.

22. Ninahisi wagonjwa wananilaumu kwa baadhi ya matatizo yao.

8.5 Appendix 5: Ethical letters

UNITED REPUBLIC OF TANZANIA

MINISTRY OF EDUCATION, SCIENCE AND TECHNOLOGY

MUHIMBILI UNIVERSITY OF HEALTH AND ALLIED SCIENCES

OFFICE OF THE DIRECTOR – RESEARCH, PUBLICATIONS AND INNOVATIONS

Ref. No.DA.282/298/01.C/2227 Date: 08/05/2024

MUHAS-REC-05-2024-2227
JESSE MAGALI MNYUNE
SHOOL OF PUBLIC HEALTH AND SOCIAL SCIENCES
MUHAS

RE: APPROVAL FOR ETHICAL CLEARANCE FOR A STUDY TITLED: ASSESSING PREVALENCE AND FACTORS ASSOCIATED WITH HEALTHCARE PROVIDER BURNOUT AT BENJAMIN MKAPA HOSPITAL.

Reference is made to the above heading,

I am pleased to inform you that the Chairperson has on behalf of the University Senate, approved ethical clearance of the above-mentioned study, on recommendations of the Senate Research and Publications Committee meeting accordance with MUHAS research policy and Tanzania regulations governing human and animal subjects research.

APPROVAL DATE: 08/05/2024
EXPIRATION DATE OF APPROVAL: 08/05/2025

STUDY DESCRIPTION:

Purpose:
The purpose of this cross-sectional analytical study is to assess prevalence of burnout among healthcare providers and its associated factors at Benjamin Mkapa Hospital, Dodoma.

The approved protocol and procedures for this study is attached and stamped with this letter, and can be found in the link provided: https://irb.muhas.ac.tz/storage/Certificates/Certificate%20-%2015558.pdf and in the *MUHAS* archives.

The PI is required to:

1. Submit bi-annual progress reports and final report upon completion of the study.
2. Report to the IRB any unanticipated problem involving risks to subjects or others including adverse events where applicable.
3. Apply for renewal of approval of ethical clearance one (1) month prior its expiration if the study is not completed at the end of this ethical approval. You may not continue with any research activity beyond the expiration date without the approval of the IRB. Failure to receive approval for continuation before the expiration date will result in automatic termination of the approval for this study on the expiration date.
4. Obtain IRB amendment (s) approval for any changes to any aspect of this study before they can be implemented.
5. Data security is ultimately the responsibility of the investigator.
6. Apply for and obtain Data Transfer Agreement (DTA) from NIMR if data will be transferred to a foreign country.
7. Apply for and obtain Material Transfer Agreement (MTA) from NIMR, if research materials (samples) will be shipped to a foreign country.
8. Apply for and obtain permission to publish the results from National Institute for Medical Research. The application should be before submitting to a publisher and not concurrently through the email publications@nimr.or.tz.
9. Any researcher, who contravenes or fail to comply with these conditions, shall be guilty of an offence and shall be liable on conviction to a fine as per NIMR Act No. 23 of 1979, PART III section 10 (2)
10. The PI is required to ensure that the findings of the study are disseminated to relevant stake holders.
11. PI is required to be versed with necessary laws and regulatory policies that govern research in Tanzania. Some guidance is available on our website https://drp.muhas.ac.tz/.

Muhimbili University of Health and Allied Sciences
DIRECTOR
Research, Publications & Innovations
Box 65001

Dr. Nahya Salim Masoud,
Chairperson, MUHAS Research and Ethics Committee

UNITED REPUBLIC OF TANZANIA
MINISTRY OF EDUCATION, SCIENCE AND TECHNOLOGY
MUHIMBILI UNIVERSITY OF HEALTH AND ALLIED SCIENCES
OFFICE OF THE DIRECTOR – POSTGRADUATE STUDIES

In reply quote;
Ref. No. HD/MUH/T.652/2022

14TH May, 2024

Executive Director,
Benjamin Mkapa Hospital,
P.O.Box 11088,
DODOMA TANZANIA.

Re: INTRODUCTION LETTER OF JESSE MAGALI MNYUNE

The bearer of this letter is Jesse Magali Mnyune (HD/MUH/T.652/2022), a student at Muhimbili University of Health and Allied Sciences (MUHAS) pursuing MPH-Distance Leaning.
As part of her studies she intends to do a study titled**"Assessing Prevalence And Factors Associated With Healthcare Provider Burnout At Benjamin Mkapa Hospital".**

The research has been approved by the Chairman of University Senate.

Kindly provide her the necessary assistance to facilitate the conduct of her research.

We thank you for your cooperation.

Ms. Victoria Mwanilwa
For: DIRECTOR, POSTGRADUATE STUDIES

c.c. Jesse Magali Mnyune

9 United Nations Road; Upanga West; P.O. Box 65001, Dar Es Salaam: Tel. G/Line: +255-22-2150302/6; Ext. 1015; Direct Line:+255-22-2151378;Telefax:+255-22-2150465;E-mail:dpgs@muhas.ac.tz;Web:https://www.muhas.ac.tz

THE UNITED REPUBLIC OF TANZANIA
MINISTRY OF HEALTH
THE BENJAMIN MKAPA HOSPITAL

In reply please quote

Ref. No.AC.293/340/01/97 **Date 24 May 2024**

Director of Postgraduate Studies,
Muhimbili University of Health and Allied Sciences,
DAR ES SALAAM.

RE: PERMISSION FOR DATA COLLECTION

Reference is made to the above heading above and a letter from your office with **Ref. No.** HD/MUH/T.**652/2022** dated **14th May 2024.**

2. I am glad to inform you that data collection is granted to **Dr. Jesse Magali Mnyune,** who is a student of the Muhimbili University of Health and Allied Sciences from **May 2024 to May 2025**

3. The title of the research is ***"Assessing Prevalence and Factors Associated with Healthcare Provider Burnout at Benjamin Mkapa Hospital in Dodoma".***

4. When publishing the obtained data BMH should be acknowledged. He will be required to pay **Tshs.50,000/=** as a fee for data collection, control number will be obtained at the office of the Chief Accountant.

5. For the whole period he will be here at BMH, he must adhere to all Medical Ethics, Hospital rules, and regulations as well as proper dress code, and must always have staff identification from the university.

6. Best regards.

Hindu Ibrahim
For: EXECUTIVE DIRECTOR

Inside University of Dodoma, P.O. Box 11088, Dodoma, Phone +255-262963710, Fax +255-262963711, Email info@bmh.or.tz, Website www.bmh.or.tz