

**SELF-MEDICATION PRACTICES AND ASSOCIATED FACTORS  
AMONG HEALTH CARE WORKERS AT MWANANYAMALA  
REFERRAL HOSPITAL IN KINONDONI, DAR ES SALAAM**

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**Self-Medication Practices and Associated Factors among Health Care Workers at  
Mwananyamala Referral Hospital in Kinondoni, Dar es Salaam**

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**‘Dissertation submitted to the School of Public Health and Social Science in partial  
fulfillment of the requirements for the award of Master Degree of Public Health of  
Muhimbili University of Health and Allied Sciences’**

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**CERTIFICATION**

The undersigned certifies that he has read and hereby recommend for examination by Muhimbili University of Health and Allied Sciences dissertation entitled "Self-medication practices and associated factors among Health Care Workers at Mwananyamala Referral Hospital in Kinondoni, Dar es Salaam" in partial fulfillment of the requirement for the degree of master of Public Health of Muhimbili University of Health and Allied Sciences.

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(Supervisor)

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Date

**DECLARATION AND COPYRIGHT**

I Alice Baisi, declare that this dissertation is my own original work and it has not been Presented to any other University for similar or any other degree award.

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## **DEDICATION**

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**LIST OF ABBREVIATIONS**

<b>ADR</b>	Adverse drug reaction
<b>AOR</b>	Adjusted Odds Ratio
<b>CI</b>	Confidence interval
<b>COR</b>	Crude Odds Ratio
<b>HCP</b>	Health Care Personnel
<b>HCWs</b>	Health Care Workers
<b>MoHCDGEC</b>	Ministry of Health, Community Development, Gender, Elderly and Children
<b>MPH</b>	Master of Public Health
<b>MUHAS</b>	Muhimbili University of Health and Allied Sciences
<b>NGO</b>	Non-Governmental Organization
<b>OTC</b>	Over the Counter
<b>SPHSS</b>	School of Public Health and Social Sciences
<b>SPSS</b>	Statistical Package for Social Sciences
<b>USA</b>	United States of America
<b>WHO</b>	World Health Organization
<b>WSMI</b>	World Self-Medication Industry

**Definition of Key Terms.**

**Medication:** Medication is any drug or preparation that is used to treat and cure illness.

**Self-medication:** According to the WHO's definition, self-medication is the use of drugs to treat self-diagnosed disorders or symptoms, or the intermittent or continued use of a prescribed drug for chronic or recurrent diseases or symptoms.

**Health care Personnel:** Health care Personnel (HCP) are paid and unpaid persons serving in healthcare settings who have the potential for direct or indirect exposure to patients or infectious materials.

**Healthcare worker:** is anyone who works in a healthcare or social care setting, including healthcare students on clinical placement, frontline healthcare and other healthcare workers not in direct patient contact

**Adverse drug reaction:** Severe undesired effects of medications

**Over the counter drugs:** Medications which can be purchased from any shop or pharmacy without a prescription

## **ABSTRACT**

### **Background**

In recent years there has been an increasing trend in self-medication among health workers. Self-medication is the use of any drug or medication to treat an illness or ailment without the supervision of a licensed medical doctor/health care providers. Self-medication practice in Tanzania is quite common. However, there is little information with regard to magnitude and associated factors.

### **Objective**

To assess self-medication practices and associated factors among Health Care Workers at Mwananyamala Referral Hospital in Kinondoni, Dar es Salaam.

### **Material and method**

A cross-sectional study was conducted among 374 health care workers working at Mwananyamala Referral Hospital in Kinondoni, Dar es Salaam who met the inclusion criteria. Cluster sampling were used to obtain participants from all the participants' categories proportionally. Data were collected quantitatively using pretested interviewer administered questionnaire translated in Swahili language by trained research assistants. SPSS software was used for analysis. Descriptive statistics, binary and multivariable regression analysis with 95% confidence interval were carried out and P-value less than 0.05 was used to determine the significant association between independent variables and dependent variable. Adjusted odds ratio was used to establish association between dependent variable (Self-medication Practices) and independent variables (Factors associated with self-medication practices) among health care workers at Mwananyamala Referral Hospital, Kinondoni, Dar es Salaam.

### **Results**

It was found that 95% of the participant were aware of self-medication. The prevalence of self-medication among health care workers found in this study was 69.0%. Familiarity with medications and financial constrains were the commonly mentioned reason for self-medication practice (43.8% and 42.0%).

Those who didn't practice self-medication were scared of adverse reactions, wrong medications and wrong use by 35.0%, 29.0% and 25.0% respectively.

Overall knowledge on self-medication was measured as good, moderate and poor and the findings were 76.8%, 10.2% and 13.0% respectively. The illness symptoms for self-medication mostly reported was headache (24.6%) and Anti-pain killer was the mostly reported common medication (45.7%) for self-medication.

There is significant association between self-medication and working experience and sex of the participants.

### **Conclusion**

Many Health workers at Mwananyamala practice self-medication despite having good knowledge in regard to this subject. Vague symptoms like headache, fever, cough and diarrhea are the leading cause of self-medication. Ant pains and antacids are often prescribed. It is not a good sign for the health system when the experts behave different from what is expected.

## CHAPTER ONE

### 1.1. Background Information

Self-medication is a common practice that represents a public health problem worldwide. It is increasing in most developing countries [1]. According to World Health Organization (WHO), self-medication is defined as “the selection and use of medicines by individuals to treat self-recognized illnesses or symptoms” [2]. Self-medication is common with antimicrobial agents and ant pains with the prevalence differing from country to country [3].

The prevalence of self-medication in Africa is estimated to range from 11.7% to 75.7 [4]. In Tanzania, the prevalence of self-medication reported by the study done in North-eastern Tanzania was 58% [5].

Self-medication has both benefits and risks. Responsible self-medication can save scarce medical resources from being wasted on minor conditions, reduce the burden on health care facilities, and decrease the cost and time people spend to visit health care facilities for minor symptoms [9]. However, inappropriate self-medication can have a number of potential risks. For example, delay in seeking appropriate medical advice, inappropriate duration of use of medicine, risk of dependence and abuse etc. [9]

Medications provide therapeutic benefits through curing a disease, slowing its evolution, or alleviating its symptoms. But medications also carry the risks of adverse drug reactions, which can span from minor symptoms to severe events such as anaphylaxis or organ failure [10]. Also self-medication will come with potential health related hazards including emergence of antimicrobial resistance [11].

Factors which are associated with self-medication has been documented to include socio-cultural factors, lack of knowledge on the consequence of self-medications and previous experience with similar symptoms. Also, low or poor standard of life, high charges by hospitals and inaccessibility to health care services are known to be associated with self-medication. [12]. in other areas urgency of the problem (emergency use), bureaucracy and overcrowding in hospitals have shown to increase the use of self-medications. [13].

Health care workers are not excluded from self-medication. It is easy for the health care worker to do self-medication because they believe in the knowledge they have about illness and medications [14]. The majority of health care workers use self-medication for the common minor complains which are probably associated with the nature of their work like back pain in lower limbs, stress, mood swings, sleep disorders and varicose [15].

Thus, it is important to know the knowledge, practice and risk factors associated with self-medication practices among health care workers in order to design appropriate educational, regulatory and administrative measures in alleviating the public health risks arising from improper practices of self-medication.

## **1.2 Problem Statement**

Self-medication practice is increasing worldwide. The situation is worse in the developing countries due to lack of control of medications dispenser in pharmacies. Health workers in all categories sometimes advice their client to use medications without a proper consultation and diagnosis

Health care workers are the key element in controlling the self-medication problem. It is important to know their practice on this topic so as to have a possible assumption of how they will behave with the community in regard to self-medication.

A number of studies on self-medications have been carried out in Tanzania [16-19]. The majority deals with the general population and not health worker. Therefore, very little is known in regard to Self-medication among health care workers Thus, the objective of this study was to determine the self-medication practices and associated factors among health care workers at Mwananyamala Referral Hospital, in Kinondoni, Dar es Salaam, Tanzania. The study will provide baseline data to assist different governmental & non-governmental institutions in establishing appropriate evidence to promote rational use of prescription and non-prescription medicines among health care workers. With an improved practice among health care workers, becomes easy to increase the use of prescribed medications and therefore decreases the prevalence of self-medication and its related complications.

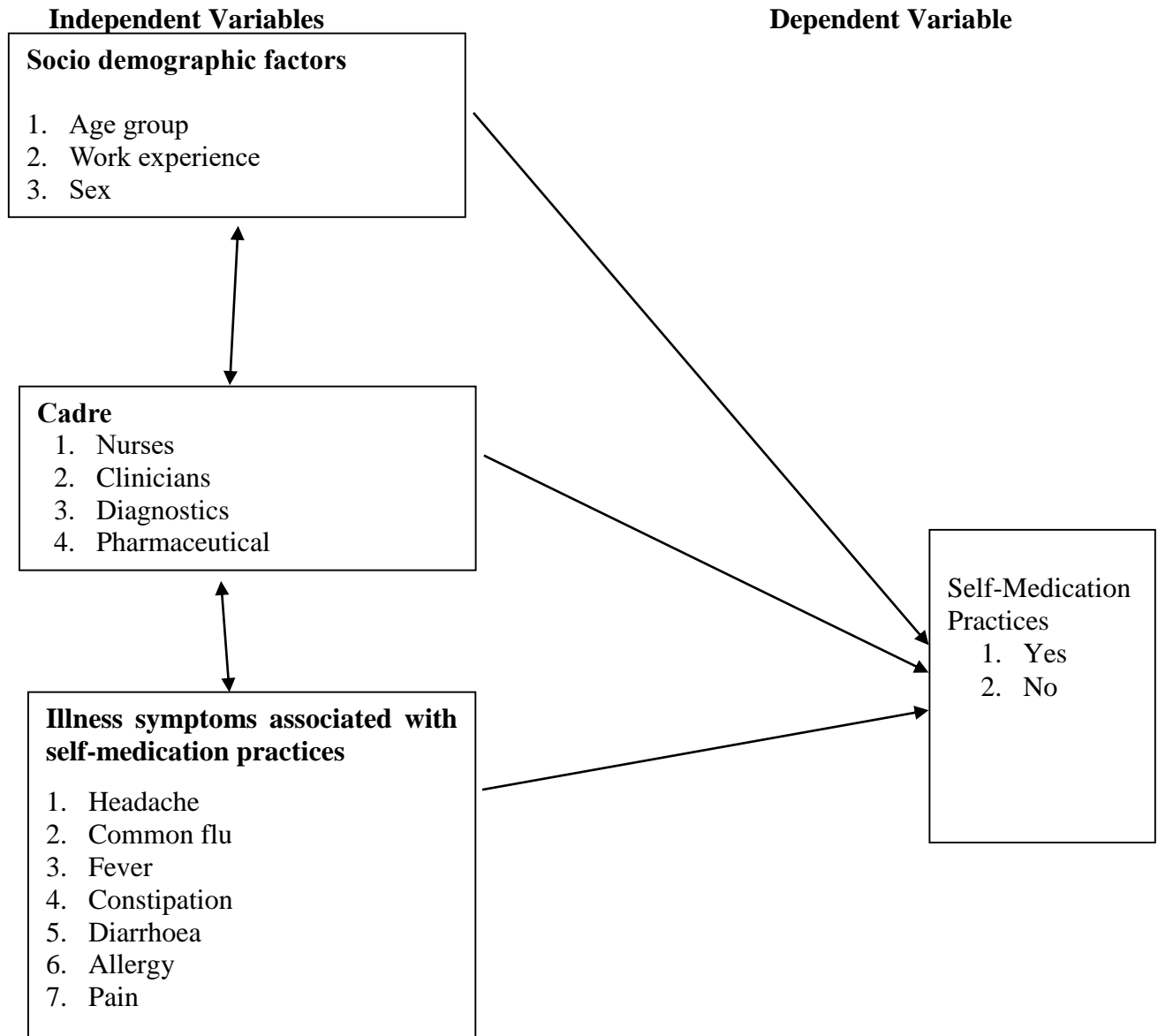


### **1.3. Rationale of the study**

The findings of this study will generate more and evidence based information in the literature of self-medication practices and associated risk factors among health care workers in Tanzania and around the globe. The findings from this study will also create awareness to policy makers, health care professionals and program planners on the key factors to consider in the design and formulation of future intervention focusing on reducing the problem of self-medication practices nationally, locally and globally. The information from this study will also be useful as source of information by future scholars, when they will be doing research on the area related to this in future

### **1.4. The Conceptual Framework**

Independent variables are the factors associated with self-medication practices and the dependent variable will be self-medication practices [20]. Social demographic factors, Cadre of Participant and illness during three previous months are the dependent variables. Some of social demographic data, cadre and illness in the past three months among participants are assessed in relation to the practice of self-medications.



(Adopted from Miles & Huberman 1994) [51].

**Figure 1: The Conceptual Framework**

## **1.5 Research Questions**

### **1.5.1. Main Research Questions**

What are the self-medication practices and associated factors among Health Care Workers at Mwananyamala Referral Hospital in Kinondoni, Dar es Salaam?

### **1.5.2. Specific Research questions**

1. What are self-medication practices among Health Care Workers at Mwananyamala Referral Hospital in Kinondoni, Dar es Salaam?
2. What are the common illness symptoms associated with self-medication practices among Health Care Workers at Mwananyamala Referral Hospital in Kinondoni, Dar es Salaam?
3. What are the socio-demographic factors associated with self-medication practices among Health Care Workers at Mwananyamala Referral Hospital in Kinondoni, Dar es Salaam?

## **1.6. Objectives**

### **1.6.1 Overall Objectives**

To determine self-medication practices and associated factors among Health Care Workers at Mwananyamala Referral Hospital in Kinondoni, Dar es Salaam.

### **1.6.2. Specific Objective**

1. To determine socio-demographic factors associated with self-medication practices among Health Care Workers at Mwananyamala Referral Hospital in Kinondoni, Dar es Salaam.
2. To determine the proportion of HCW practicing self-medication at Mwananyamala Referral Hospital in Kinondoni, Dar es Salaam.
3. To determine common illness symptoms associated with self-medication practices among Health Care Workers at Mwananyamala Referral Hospital in Kinondoni, Dar es Salaam.

## CHAPTER TWO

### LITERATURE REVIEW

#### 2.1 Concept of Medication/ Drugs and Self-Medication

World Health Organization, defines drug as any substance that modifies or explores pathological status for the benefit of the recipient. Drug is a chemical substance capable of altering the physical and psychological function of the body. [21].

Self-medication (SM) is the selection and use of medicines by individuals or a member of the individual's family without physician's order to treat self-recognized or self-diagnosed conditions [23]. It can help to treat minor ailments that do not require medical consultation and hence reduce the pressure on medical services, particularly in the deprived countries with inadequate health care resources. In a number of developing countries, many drugs are dispensed over the counter without medical direction [24].

#### 2.2 Consequences of Self-Medication

The potential risk of self-medication practices includes: incorrect self-diagnosis delays in seeking medical advice when needed, infrequent but severe medical adverse reactions, dangerous drug interactions, incorrect manner of administration, incorrect dosage, incorrect choice of therapy, masking of a severe disease and risk of dependence and abuse. [26].

Other particularly important dangers related to self-medication and abuse includes: poly-pharmacy and drug interactions, medications abuse or dependence, misdiagnosis and incorrect choice of treatment. Numerous and varied dangers are associated with self-medication. This is because the consumer has no knowledge of the efficacy of drugs or their hazards, thus resulting to high number of toxic reactions.

According to Ekwe (2002), the dangers of self-medication are problems to contemporary medical personnel. It brings serious adverse consequence to the user, his family, community and the larger society. [27].

Segall (1990) introduced the theory that drug dependence or addiction results from self-medication for the distress caused by the pre-existing condition. Physical dependence called addiction can develop with the use of tranquilizers, pain relievers and narcotics. But the psychological dependence called habituation results due to pleasurable sensations or relief from stress or anxiety from such drugs as cocaine, marijuana to mention few [29].

### **2.3 Reasons for self-medication practices**

Reasons given for the practice of self-medication includes lack of money, ignorance, long distance to healthcare facility, mild/minor illness, poor attitude of health workers (rude, corrupt, dirty) re- treatment of similar illness and lack of health personnel [30]. Health workers may differ from general population because they are exposed to the knowledge about disease and drugs. It will be interesting to know how this will affect their self-medication habit. [31].

### **2.4. Common Symptoms for self-medication**

A study done Greece showed that the most common ailment for which self-medication was practiced were throat symptom and bronchitis while main medication sources were pharmacies and medication leftovers from previous prescriptions [32]

Another study in Uganda showed that fever, cough, abdominal pain accounted for most common ailment while drug sources included drug shops, private clinics, ordinary shops and government health centers. The place where these drugs are gotten also serves as source of knowledge about the drugs [33].

### **2.5. Common drugs for self-Medication**

Drugs that are commonly used for self-medication includes anti-malaria, (55.3%), analgesic (43.9%), antibacterial (21.7%). In another study, modern drugs accounted for 93.6%, homeopathic drugs 4.6% and herbal medicines 2% [34]. Despite the need and necessity for self-medication among health personnel, little is known on self-medication practices and associated factors among health care workers.

## **CHAPTER THREE**

### **METHODOLOGY**

#### **3.1. Study design**

A cross sectional study design employing quantitative approach was used for this study. Data were collected using pre-tested administered questionnaire among health care workers at Mwananyamala Referral Hospital. The cross sectional study design was selected due to its ability to determine the association between exposures and outcome at the same point in time.

#### **3.2 Study population**

Participants of this study were Health Care Workers at Mwananyamala Referral Hospital, in Kinondoni, Dar es Salaam, however the target population were Health Care Workers who voluntarily filled consent form to participate in the study and found duration the period of data collection.

##### **3.2.1 Participant inclusion criteria were**

- Health care workers working at Mwananyamala Referral Hospital

##### **3.2.2 Participant exclusion criteria were**

- Workers who were not dealing direct with patients' management, like secretaries, gatekeepers and the like.

#### **3.3 Study area**

The study was conducted at Mwananyamala Referral Hospital, Dar es Salaam. Mwananyamala Referral Hospital was selected as study area, because it is one among the Public Referral Hospitals reported with large number of health care workers and hence the chance of getting enough sample size and study participants with diversity of characters were guaranteed. Mwananyamala Referral hospital is located at Kinondoni District in Dar es Salaam Region.

### 3.4 sample size and Sampling Technique

#### 3.4.1 Sample size

The Sample size was determined using the prevalence of 58% which is prevalence of self-medication reported by the study done in North-eastern Tanzania [5]. With standard normal deviate of 1.96 for 95% confidence interval and 3% margin of error.

Therefore, minimum sample size was calculated as follows;

For a large population:

$$n = \frac{z^2 p (1-p)}{\epsilon^2}$$

Where

n= required sample size

Z= Critical value of the standard normal distribution for the 95% confidence interval around the

True proportion which is 1.96

P= expected proportion of interest to be studied which is 58% or p=0.58 which is of self Medication reported by the study done in North-eastern Tanzania [5].

ε= accepted margin of error is set at 5%. From literature review of sample size calculation, (if

The previous prevalence is below 20% and above 80%, the expected margin of error is set at

3%. If the previous Prevalence is above 20% and below 80%, the expected margin of error is

Set at 5%). Therefore, since the previous prevalence is 58%, which is above 20%, the Margin of error will be set at 5%. Or p=0.05

DF=Degree of freedom to fit the required sample size.

Substituting in the above formula;

$$n = \frac{1.96^2 0.58 (1-0.58)}{0.05^2} = 374$$

N=374 participants

Therefore, the minimum required sample size was 374 participants

This study managed to interview 410 health workers at Mwananyamala Hospital. The increase of number of interviews to 36 more participants else stated from the calculation, aimed at increasing the generalization of the results to be found.

### **3.4.2 Sampling Technique.**

The total number of health care workers at Mwananyamala Referral Hospital was taken from the administration. The study population was divided into four main categories: Clinician, Nurses, Pharmaceutical personnel and Investigational unit (laboratory and radiological Personnel). Each category contributed number of participants in proportional to the total number. The total number of HWCs at Mwananyamala was found to be 554. Clinicians were 136 (24.5), nurses 331(59.7), diagnostic 55(10.0) and pharmacy 32(5.8). Each category contributed participants according to its percentage from the total population. The required number of health care workers in each category were obtained by convenient method (we recruited participants who were present on the day of interview) until the required sample size was reached. Participants were informed of the study and asked to give a signed consent. Those consented were interviewed at the place and time that was conducive for both interviewer and interviewees.

## **3.5 Data source, collection methods and tool**

### **3.5.1 Data source**

The source of data for this study were primary source of data collection. Data were collected through Interviewer administered questionnaire comprising of closed-ended questions.

### **3.5.2 Data collection methods**

The selected study participants were informed of the study in the facility and asked to give a signed consent. The consented study participants were interviewed at their respective departments. All participants who were coming for work each day were interviewed until the required sample size was reached for each category. The criteria for the selection of health care workers were working at Mwananyamala Referral Hospital



### **3.6. Study tool and variables to be measured**

Structured questionnaires were administered to health care workers from Mwananyamala Hospital departments.

#### **3.6.1 Dependent (outcome) variable**

Self-Medication Practices

#### **3.6.2. Independent (determinant) variables**

Socio-demographic characteristics of health care workers, Knowledge towards self-medication practices, Source of information for self-medication and illness symptoms associated with self-medication practices.

### **3.7 Data management and analysis**

The collected data were sorted, coded, edited, and then imported into SPSS statistical package version 24 for analysis. Descriptive statistical measures like, mean and standard deviation were performed. Frequencies were produced for categorical variables and differences between proportions were examined using chi-square test. The factors associated with self-medication practices were assessed using odds ratios with respective 95% CI. To control for potential confounders p-value less than 0.2 in the bivariety analysis were included in the multivariate analysis. Variables having a *P*-value less than 0.05 in multivariate binary logistic regression model were considered statistically significant. Level of knowledge was tested using the eight questions asked. Those who had 7-8 correct answers were termed as with good knowledge. Those who scored 4-6 were termed as with moderate knowledge and all those who scored 3 and less were termed as with poor knowledge.

### **3.8. Pretesting of the questionnaire and Piloting of the Study**

The questionnaires were pretested to 30 Health Care Workers at Mwananyamala Hospital. The pretested questionnaires were not included in the process of data collection. Pre testing were done to check if the questionnaire was understood. Pretesting process was a key for making necessary amendments and refining of the data collection tool. Some adjustments were made including the question regarding cadre of participants and how long they have

worked. Time for internship was not counted by most participants as part of the time they have worked. A new questionnaire was formed then which was used in this study.

### **3.10. Ethical consideration**

Ethical clearance to conduct the study were obtained from Muhimbili University of Health and Allied Sciences Institutional Review Board. The permission to conduct the study were requested from all appropriate authorities starting from Dar es Salaam Regional and Administrative Secretary (RAS), District Executive Directors (DED) for Kinondoni Municipal and ward executive officers, where the study was conducted. In addition, written consent was obtained from Health Care Workers working at Mwananyamala Referral Hospitals. Voluntary participation was highly encouraged. Privacy and confidentiality were highly maintained by avoiding unauthorized persons from accessing study information. Anonymity were maintained by using participants ID. No name of the study participant was recorded in the questionnaire.

The detail of the study was clearly explained to the participants. The detail of the consent form included purpose of the study with respect to the benefits associated with the study. The results of this study were saved in a confidential manner such as password protected computer to avoid access from unauthorized personnel. The study didn't impose any risk to participants.

## CHAPTER FOUR

### RESULTS

#### 4.0. Overview

This section presents the findings of the research. These are socio-demographic characteristics of respondents, self-medication practices, knowledge towards self-medication practices, common illness symptoms associated with self-medication practices and source of information for self-medication among Health Care Workers.

#### 4.1. Demographic Characteristics of the study Participants (n=400)

Of the total of 410 questionnaires distributed to be filled by health care workers, only 400 were filled correctly, collected back and assessed as complete. The mean age was 38 years with a SE of 14.6 and ranged from 19 to 60 years and mode was 36 years. Table 1 shows that, most of the health care workers 214 (53.5%) were older than 30 years, also most were female 230(57.5%) and diploma was the commonest level of education. In addition, majority of the health care workers 239(59.7%) were Nurses, with majority of them 205 (51.2) having work experience of maximum of five years.

#### 4.2. Knowledge on self-medication practices among health care workers

The results from table 2 shows that, majority of health care workers 380 (95.0%), ever heard about self-medication practices, 352 (88.0%) responded that, self-medication can be practiced with all drugs, 397 (94.8) responded that, self-medication is not better than seeking med consultation. In addition to that, majority of the participants, 357 (89.2%) responded that, same medicine cannot be shared between two people with different ailment. Most, of the participants 324 (81%) responded that, self-medication practices result into harmful effects, 349 (87.2%) responded that, Self-medication delays one to seek medical care and 370 (92.5%) responded that, Self-medication results to drug resistance.

The majority of the participants had good knowledge 307 (76.8).

**Table 1; Demographic Characteristics of the study Participants (n=400)**

<b>Variable</b>	<b>Frequency (Percent)</b>
<b>Age of the respondents</b>	
18-29Years	154 (38.3)
30-41 Years	214 (53.5)
41 years and above	32(8)
<b>Sex of the respondents</b>	
Male	170(42.5)
Female	230(57.5)
<b>Education status</b>	
Certificate	108(27.0)
Diploma	207(51.8)
Degree and above	85(21.2)
<b>Cadre of the participants</b>	
Clinician	98(24.5)
Nurses	239(59.7)
Diagnostic (lab & radiology)	40(10.0)
Pharmaceutical	23(5.8)
<b>Work experience</b>	
1-5 years	132 (33.0)
6-10 Years	205 (51.2)
More than 10 Years	63 (15.8)
<b>Illness during the previous three months</b>	
Yes	185 (46.3)
No	2115 (53.7)

**Table 1: Knowledge on self-medication practices among health care workers (n=400)**

<b>Variable</b>	<b>Yes (Frequency (%))</b>	<b>No (Frequency (%))</b>
Ever heard about self-medication	380 (95.0)	20 (5.0)
Self-medication can be practiced with all drugs	352 (88.0)	42 (12.0)
Self-medication is better than seeking med consultation	21 (5.3)	379 (94.7)
Same medicine can be shared between two people with different ailment	43 (10.8)	357 (89.2)
Self-medication practices result into harmful effects	324 (81.0)	76 (19.0)
Self-medication causes addiction	349 (87.2)	51 (12.8)
Self-medication delays one to seek medical care	348 (87.0)	52 (13.0)
Self-medication results to drug resistance	370 (92.5)	30 (7.5)

**Table 2: Overall Knowledge of participants in regard to self-medication (n=400)**

<b>Overall knowledge</b>	<b>Frequency(percent)</b>
Good (7-8)	307 (76.8)
Moderate (6-4)	41 (10.2)
Poor (3-0)	52 (13.0)
Total	400 (100)

### 4.3. Reasons for Self-Medication among Health Care Workers

Most of the participants 276 (69.0%), ever practices self-medication. Familiarity with medications and financial constraints were the main reasons for self-medication practice by 121 (43.8) and 116 (42.0) respectively. The presented results also show that, majority of those who didn't practice self-medication 44 (35.5%), were scared of adverse drug reaction. For more explanation, please refer table 3 below.

**Table 3: Reasons for Self-Medication among Health Care Workers**

Variable	Frequency (Percent)	
	Yes	No
Ever practiced self-medication		
	276 (69.0)	124 (31.0)
<b>Reasons for self-Medication (N=276)</b>		
Avoid troubles of seeing a doctor	80 (29.0)	196 (71.0)
Familiarity with treatment option	121 (43.8)	155 (56.2)
Mild disease	75 (27.2)	201 (72.8)
Financial constraints	116 (42.0)	160 (58.0)
<b>Reasons for not practicing self-medication (N=124)</b>		
Risk of using wrong drugs	36 (29.0)	88 (71)
Risk of adverse drug reaction	44 (35.5)	80 (64.5)
Risk of wrong use of drugs	31 (25.0)	93 (75.0)
Risk of wrong diagnosis	14 (11.3)	110 (88.7)

#### 4.4. Illness symptoms associated with self-medication among health care workers.

The results from table 3 shows that, headache was the main illness symptom associated with self-medication 68 (24.6%) and anti-pains were the commonest used medications as self-medication 126 (45.7%).

**Table 4: Illness symptoms associated with self-medication among health care workers. (n=276)**

Variables	Frequency (Percent)	
	Yes	No
<b>The common illness symptoms for self-medication</b>		
Headache	68 (24.6)	208 (75.4)
Common flu	31 (11.2)	245 (88.8)
Fever	31 (11.2)	245 (88.8)
Constipation	33 (12.3)	243 (87.3)
Diarrhea	25 (9.1)	251 (90.9)
Allergy	34 (12.3)	242 (87.7)
Cough	20 (7.2)	256 (92.8)
Fungal and Skin infections	3 (1.1)	273 (98.9)
<b>The common medication (drugs) for self-medication.</b>		
Antibiotics	68 (24.6)	198 (75.4)
Anti-pain	126 (45.7)	150 (54.3)
Ant acids	27 (9.8)	249 (90.2)
Anti-inflammatory	8 (2.9)	268 (97.1)

#### **4.5: Bivariate and Multivariable analysis of the factors associated with self-medication Practices**

The results of table 5 below, shows that, male participants were less likely to practices self-medication (AOR: 0.462(0.278-0.769), compared to female participants. The association between self-medication practices and sex of the respondents was statistically significant due to the p-value being 0.033

On, the other hand, health care workers with 30 years of age and above were less likely to practices self-medication (AOR: 0.121(0.013-0.198), compared to those younger than 30 years. The association between self-medication practices and age of the respondents was statistically significant due to the p-value being 0.049.

On, the other hand, there was no association between categories of participants and the practice of self-medication, the p-value was 0.050.

Likewise, health care workers with more than 10 years of working experience were less likely to practices self-medication (AOR: 0.589(0.435-0.740), than those with working experience of less than 10 years' experience. The association between self-medication practices and working experience was statistically significant.

Health care workers with no illness during the previous three months, were less likely to likely to practices self-medication (AOR: 0.640(0.732-0.974), than those, with illness during the previous three months. The association between self-medication practices and Illness during the previous three months was statistically significant.



**Table 5: Bivariate and Multivariable Analysis on the factors associated with self-medication among health care workers**

<b>Variable and variable response</b>	<b>COR</b>	<b>AOR</b>	<b>P-Value</b>
<b>Sex</b>			
Female	1	1	0.033
Male	0.514(0.023-0.817)	0.462(0.278-0.769)	
<b>Age</b>			
18-29 years	1	1	0.049
30 years and above	0.131(0.014-0.195)	0.121(0.013-0.198)	
<b>Cadre of the participants</b>			
Nurses	1	1	0.050
Clinicians	0.752(0.748-0.995)	0.640(0.732-0.974)	
Diagnostic	0.328(0.093-0.762)	0.293(0.081-0.558)	
Pharmaceutical	0.911(0.619-0.942)	0.928(0.592-0.973)	
<b>Work experience</b>			
1-10 years	1	1	0.043
More than 10 Years	0.479(0.384-0.647)	0.589(0.435-0.740)	
<b>Illness during the previous three months</b>			
Yes	1	1	0.049
No	0.752(0.748-0.995)	0.640(0.732-0.974)	

## CHAPTER FIVE

### DISCUSSION

#### 5.1. Overview of the results

The finding from this study shows that, 69.0% of health care workers at Mwananyamala Referral Hospital reported self-medication. The prevalence of self-medication practices reported in this study is greater than the prevalence reported by the study done at University of Gondar (38.5%) [35]. The study population in this study were health practitioners while in the study done at Gondar university involved medical students. This could be the reason for the difference because medical students don't have the same access to medications as health care workers. However, it was lower than studies done in Addis Ababa (72.8%) [38] which involved pharmaceutical students. Access of medication is the possible reason for this difference.

The study found that, headache, was the most common illness symptoms reported by majority of health care workers associated with self-medication. These findings are similar to those in the study by Xiaosheng Lei et al where headache was the major indication for self-medication. Xiaosheng Lei showed cough, common cold, fever and chills to be next in the list [41]. The result for this finding could be a reflection of poor working conditions, with minimum rest, which leads to fatigue and the need for medication, and consequently, self-medication. Also, these symptoms are common in almost all populations

The study also found that, anti-pain killer, was the most common medication reported to be used by the majority of health care workers for self-medication. Sallam et al also showed in their study that, the most used self-medicating drugs were those drugs for pain relief and respiratory system [44]. The reasons for this could be due to easy accessibility and availability of anti-pain killer in various pharmacies in the working place and streets.

This study found high good knowledge on self-medication practices among health care workers at Mwananyamala Referral Hospital. This was found to be 76.8%. Similar pattern of findings was found in a study done in Malaysia by Abdul Nazer Ali et al [45]. The reasons for this is the fact that they are medical personnel and their knowledge about medical aspects is high. Balbisi and Ambiza also revealed that, health care workers have the greatest access

to medications and have impressive knowledge of prescription drugs and their use in the treatment of various drug therapies which increase the potential of self-medication [45].

Female participants were more likely to practice self-medication as male participants. Rosen et al., and Sexton et al. also revealed similar findings [47-48]. Figueiras et al. also shows more female practice self-medication as male [49]. This is due to the fact that female usually seek health services more frequently and they respond to their illness so immediately to the extent of using self-medication.

The study, also found that, health care workers with more than 10 years of working experience, were less likely to practice self-medication. The findings from this study is different from the findings of the study done in Wuhan which reported Health care workers with more than 40 years of professional experience have the highest prevalence rate of self-medication [41]. However, this does not indicate that the prevalence rate of self-medication increases with the increase in the professional experience of respondents.

The study found that, age group 30 years and above, were less likely to practice self-medication. The findings from this study is supported by other two studies done in Dar es Salaam which conformed that, self-medication tends to be higher among younger people (16-17). But contradict with the previous findings which reported that, consumption of medication increases as people get older (18-19)

The study, also found that, health care workers without illness during the previous three months more were less likely to practice self-medication. The findings from this study is supported by the previous findings, which reported that, presence of signs and symptoms of acute characteristics such as pain and fever involve medical follow-up, which favour the practices of self-medication [20].

The study showed that being in one category of the health workers was not associated with any increase risk of self-medication than being in the other category. The findings from this study contradict with findings in other study done in Dar es Salaam, which reported that, physicians are more likely to self-medication compared to other categories. [18].

## **5.2. Limitations**

Being cross sectional design, the study only evaluated the presence of association between the variables and not the casual association. The other limitation was memory bias because respondent had to recall to some responses.

## **5.3. Mitigation**

The first limitation was minimized through a very clear description of the purpose, benefit and risk associated with the study, so that study participants are aware of the study. The full explanation of the study enlightened them and felt respected and honoured and became very cooperative by responding all of the questions asked to them by the researchers. The other study biases were minimized by designing data collection tool with closed ended questions, where by even if study participants were faced with memorizing problem, after the correct answer is seen, they remembered the correct answer. The study limitation was also mitigated by having a very justifiable inclusion and exclusion criteria.

## CHAPTER SIX

### CONCLUSION AND RECOMMENDATION

#### 6.1. Conclusion

Many Health workers at Mwananyamala practice self-medication despite having good knowledge in regard to this subject. Vague symptoms like headache, fever, cough and diarrhoea are the leading cause of self-medication. Ant pains and antacids are often prescribed. It is not a good sign for the health system when the experts behave different from what is expected.

#### 6.2. Recommendations

1. Regular training for health workers in regards to effects of self-medication should be conducted. This will help to remind health workers and reduce the number of those who practice self-medication
2. Training and workshops about self-medication. Health worker should be reminded of the negative impact of self-medication in the medical field and society at large. For example, the rate of antibiotic resistance
3. The Tanzania Medical and Drug Authority (TMDA) could also exert greater oversight on pharmacies' performance to control the sale of prescribed drugs and strict regulation of OTC sale. High fines for the pharmacies which will violet these regulations can be imposed and implemented.
4. The health system should be made friendly to its clients. Time spent to the facility, availability of medications and cost for the service should be regulated to fit the economic standard of the population.

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## APPENDICES

### Appendix I

#### QUESTIONNAIRE ON SELF-MEDICATION PRACTICES AND ASSOCIATED FACTORS AMONG HEALTH CARE WORKERS AT MWANANYAMALA REFERRAL HOSPITAL IN KINONDONI, DAR ES SALAAM

SELF MEDICATION PRACTICE AND RISK FACTORS FOR SELF MEDICATION AMONG HEALTH PERSONNEL

Circle the number of your response

<b>SECTION A; DEMOGRAPHIC CHARACTERISTICS OF THE HEALTH CARE WORKERS</b>		
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S/N	Variable	Variable Category
1	Age of the respondents	1. 18-29 years 2. 30-40 years 3. 41 and above
2	Sex of the respondents	1. Male 2. Female
3	Education status of the respondents	1. Certificate 2. Diploma 3. Degree and above
4	Cadre of the participants	1. Nurse 2. Clinician 3. Diagnostic (lab and rad) 4. Pharmaceutical
5	Work experience	1. 1 - 5 years 2. 6-10 Years 3. More than 10 Years

6	Did you have any illness in the last previous months?	<ol style="list-style-type: none"> <li>1. Yes</li> <li>2. No</li> </ol>
<p><b>SECTION B; SELF MEDICATION PRACTICES AMONG HEALTH CARE WORKERS</b></p> <p><b>Write 1 if your response is Yes and 0 if your response is No in front of every statement</b></p>		
7	<ol style="list-style-type: none"> <li>a. Ever heard about self-medication</li> <li>b. Self-medication can be practiced with all drugs</li> <li>c. Self-medication is better than seeking med consultation</li> <li>d. Same medicine can be shared between two people with different ailment</li> <li>e. Self-medication practices result into harmful effects</li> <li>f. Self-medication causes addiction</li> <li>g. Self-medication delays one to seek medical care</li> <li>h. Self-medication results to drug resistance</li> </ol>	
8	<ol style="list-style-type: none"> <li>a. Have you ever practiced self-medication? If yes answer the following questions (you can have more than reason), <b>if no go to question 9</b> of the interview</li> <li>b. Reasons for self-medication practices</li> </ol>	<ol style="list-style-type: none"> <li>1. Avoid troubles of seeing a doctor</li> <li>2. Familiarity with treatment option</li> <li>3. Mild disease</li> <li>4. Financial constraints</li> </ol>
9	Reasons for not practicing self-medication <b>(this part is only for people who have never</b>	<ol style="list-style-type: none"> <li>1. Risk of using wrong drugs</li> </ol>

	<b>practiced self-medication.</b> (You can choose more than one response)	<ol style="list-style-type: none"> <li>2. Risk of adverse drug reaction</li> <li>3. Risk of wrong use of drugs</li> <li>4. Risk of wrong diagnosis</li> </ol>
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**SECTION C; ILLNESS SYMPTOMS ASSOCIATED WITH SELF MEDICATION AMONG HEALTH CARE WORKERS *(Only for those who had ever used self-medication)***

10	The common illness symptoms for self-medication ( <b>You can choose more than one response</b> )	<ol style="list-style-type: none"> <li>1. Headache</li> <li>2. Cough</li> <li>3. Common flu</li> <li>4. Fever</li> <li>5. Constipation</li> <li>6. Diarrhoea</li> <li>7. Allergy</li> <li>8. Pain</li> <li>9. Fungal and microbial infection</li> </ol>
11	The common medication (drugs) for self-medication	<ol style="list-style-type: none"> <li>1. Anti-Pain</li> <li>2. Antibiotics</li> <li>3. Ant acids</li> <li>4. Anti-inflammatory</li> </ol>

## Appendix II: Fomu ya Ridhaa

MUHIMBILI UNIVERSITY OF HEALTH AND ALLIED SCIENCES

SCHOOL OF PUBLIC HEALTH AND SOCIAL SCIENCES



### IDARA YA UTAFITI NA MACHAPISHO

#### FOMU YA RIDHAA

Ridhaa ya kushiriki kwenye utafiti

ID NO...

Salaam,

Habari

Naitwa **Alice Baisi**, mwanafunzi wa chuo cha afya na tiba Muhimbili (MUHAS) ninasomea shahada ya uzamiri ya afya ya umma. Kwa sasa ninafanya utafiti kuhusu **“Matibabu binafsi and sababu zake miongoni mwa wahudumu WA Afya katika Hospitali ya Rufaa ya Mwananyamala, wilaya ya Kinondoni, Mkoa wa Dar es Salaam”**

Matokeo ya utafiti huu yatasaidia kuwafahamisha wadau mbalimbali mashirika binafsi, watafiti, wafadhili na serikali kwa ujumla kuhusu sababu kuu za msingi zitakazo pewa kipaumbele hapo baadae wakati wa kuandaa miradi inayohusu matibabu **binafsi and sababu zake miongoni mwa wahudumu wa Afya kwa ujumla.**

#### Lengo la utafiti

Matokeo ya utafiti huu yatasaidia kushughulikia sababu kuu za msingi na kuzipa kipaumbele kwa lengo la kupunguza tatizo la **matibabu binafsi and sababu zake miongoni mwa wahudumu wa Afya kwa ujumla**

#### Utaratibu wa kushiriki

Kama utakubali kushiriki katika utafiti huu, utashiriki Kwa kujibu Maswali. Utasailiwa kuhusu taarifa zako za kijamii na kiuchumi, taarifa zako binafsi kuhusu, mtizamo juu ya

matibabu binafsi, Vyanzo vya habari juu ya matibabu binafsi na dalili za magonjwa zinazohusiana na matibabu binafsi.

### **Usiri**

Maelezo yote utayotoa na kujaza kwenye karatasi ya Maswali yataingizwa katika kompyuta kwa kutumia namba ya utaulisho, hakuna majina yatakayoingizwa katika fomu ya Maswali.

### **Athali**

Maswali mengine yatayoulizwa yatakuwa nyeti na yatahusu wewe binafsi. Hivyo unaweza kujisikia vibaya na hata kukuchukulia muda wako.

### **Kujitoa kwenye utafiti/ mbadala**

Ushiriki wako ni hiari na unaweza kuchagua kushiriki au kukataa. Unaweza ukasitisha kushiriki katika utafiti huu muda wowote hatakama ulisharidhia mwanzo. Ukikataa kushiriki hakutakuwa na adhabu yoyote ile wala hutapoteza chochote.

### **Gharama/ malipo**

Zoezi hili ni hiari, Kwa hiyo hakuna malipo yoyote yatakayotolewa.

Mobile

### **Nani wakuwasiliana naye**

Kama una masawali yoyote kuhusu utafiti huu, kuhusu haki zako, unaweza kuwasiliana na mtafiti mkuu **Alice Baisi**, simu namba **0620304815** na **Dr Billy Ngasala**, simu namba .., wa Chuo Kikuu cha Sayansi za Tiba Muhimbili, S. L. P 65004, Dar es Salaam. Kama unaswali lolote kuhusiana na haki zako Kama mshiriki, unaweza kuwasiliana na Dr Bruno Sunguya ambaye ni Mwenyekiti wa Kamati ya Utafiti na Machapisho, P.O.Box 65001, Dar es Salaam. Simu namba 2150302-6.

### **Je unakubali?**

Mshiriki \_\_\_\_\_ kakubali \_\_\_\_\_ Mshiriki  
kakataa \_\_\_\_\_

Mimi, \_\_\_\_\_ nimesoma na nimeelewa fomu hii ya ridhaa.

Maswali yangu yote yamejibiwa na nakubali kushiriki katika utafiti huu.

Sahihi ya mshiriki \_\_\_\_\_

Sahihi ya mtafiti \_\_\_\_\_

Tarehe \_\_\_\_\_