PRESCRIBERS' ADHERENCE TO MALARIA DIAGNOSIS AND TREATMENT GUIDELINE AND ASSOCIATED FACTORS IN KINONDONI PUBLIC HEALTH FACILITIES DAR ES SALAAM.

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Master of Project management Monitoring and evaluation in Health

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PRESCRIBERS' ADHERENCE TO MALARIA DIAGNOSIS AND TREATMENT GUIDELINE AND ASSOCIATED FACTORS IN KINONDONI PUBLIC HEALTH FACILITIES, DAR ES SALAAM.

By

Twalib Haroub

A Dissertation Submitted in Partial Fulfillment of the Requirements for the Award of Master of Science Degree in Project management Monitoring and evaluation in Health of Muhimbili University of Health and Allied Sciences

October, 2024

CERTIFICATION

We, the undersigned, certify that we have read and hereby recommend for acceptance by the Muhimbili University of health and allied sciences, a dissertation entitled *"*Prescribers' adherence to Malaria diagnosis and treatment guideline and associated factors in Kinondoni public health facilities,Dar Es Salaam*"* in partial fulfillment of the requirement of Degree of Master of Science in Project management Monitoring and evaluation in Health

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DECLARATION AND COPYRIGHT

I, **Twalib Haroub**, declare that this dissertation is my original work, which has not been presented and will not be presented to any other university for a similar or any other degree award.

Signature…….. Date……

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DEDICATION

I dedicate this work to my family, whose love and unwavering support sustained my presence fills my life with joy and purpose. This accomplishment reflects our shared journey and the love that binds our family.

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LIST OF ABBREVIATIONS

ACTs: Artemisinin-based Combination Therapies

ADMG: Adherence to Diagnosis and Treatment Guidelines

DAM: Data Analysis Methodology

DCM: Data Collection Milestones

DCT: District Medical Officer

DMO: District Medical Officer

EFH: Eligibility for Inclusion in the Study

EPT: Evaluation of Patient Outcomes and Resource Utilization

HCP: Health Care Provider

HCQ: Healthcare Provider Questionnaire

HCW: Health Community Workers

HIE: Health Information Exchange

ICF: Informed Consent Form

ICPT: Implementation of Guidelines

ILG: Knowledge and Training Gaps

KDH: Kinondoni District Health

OAQ: Observation and Assessment Questionnaire

PAT: Patient Adherence to Treatment

PICF: Participant Information and Consent Form

RAS: Regional Administrative Secretary

RDT: Rapid Diagnostic Test

WHO: World Health Organization

OPERATIONAL TERMS

Adherence:	Refers to the extent to which prescribers comply with national guidelines for malaria diagnosis and treatment, particularly focusing on properly implementing diagnostic tests and treatment (1).
Diagnostic Test	In the context of malaria diagnostic tests include rapid diagnostic tests (RDTs) or microscopy used to confirm or rule out the presence of malaria parasites in a patient's blood. These tests are essential for accurate diagnosis and subsequent treatment decisions (2).
Health care workers:	Refers to individuals who are employed in the healthcare sector and play a crucial role in the delivery of health services.
Health facility (HF):	Refers to physical locations where healthcare services are provided to individuals and communities.
Kinondoni Municipal:	A specific administrative region or municipality where the evaluation is taking place.
Malaria diagnosis and treatment guidelines	Are standardized protocols established by health authorities and organizations to guide healthcare professionals in the accurate and effective diagnosis and treatment of malaria cases (3).
Malaria:	According to the CDC, malaria is a serious and sometimes fatal disease caused by a parasite that commonly infects a certain type of mosquito, which feeds on humans (4).
Operational Factors	Elements that impact the day-to-day functioning of healthcare facilities, influencing their efficiency and effectiveness

Prescribers:	Healthcare professionals who are authorized to legally prescribe medication or treatment to patients. They assess patients' conditions, make diagnoses, and recommend appropriate medications or therapies to manage or treat those conditions.
Quality malaria case management	A comprehensive and systematic approach to diagnosing, treating, and preventing malaria to ensure the best possible outcomes for patients also contributes to the broader goals of malaria control and elimination by reducing transmission and preventing the development of drug-resistant strains of the parasite (5).

ABSTRACT

Background: Malaria remains a major global health issue, particularly in high-prevalence areas like Tanzania, contributing significantly to morbidity and mortality. Despite established guidelines advocating for diagnostic confirmation before prescribing antimalarial drugs, adherence to these protocols is often poor.

Objective: To assess prescriber adherence to malaria diagnosis and treatment guideline and associated factors in Kinondoni public health facilities, Dar es Salaam.

Methods: This process evaluation adopted a descriptive cross-sectional study design was conducted, employing a quantitative method. A total of 135 participants were involved. Data (Demographic characteristics, Prescriber adherence, Operational factors, and patient influence) were analyzed using SPSS Version 20.

Results: Significant factors affecting adherence to malaria guidelines were identified. Clinical officers exhibited the highest strict adherence (77.3%) compared to assistant medical officers (13.6%) and medical doctors (9.1%) with a p-value of 0.03. Hospitals had partial adherence (86.7%) and no strict adherence (0.0%), also with a p-value of 0.03. Prescribers with 2 years or less experience showed 50.0% strict adherence, while those with 3-5 years had 35.0%, resulting in a p-value of 0.04. Operational factors, especially training availability, had a significant impact on adherence (p-value of 0.02). Patient demand for malaria treatment also played a role, with a p-value of 0.01.

Conclusion: The findings of this study demonstrate significant adherence to malaria treatment guidelines is influenced by prescriber type, experience, facility type, and patient demand. Clinical officers showed the highest strict adherence, while variations of adherence among different levels of professionals across health facilities call for targeted interventions, and aligning community expectations with clinical practices is crucial for improving adherence.

Recommendation: The health facility manager should introduce regular training programs and update guidelines for prescribers. Additionally, engaging with community health workers to manage patient expectations will enhance adherence and improve health outcomes.

CHAPTER ONE

1.0 INTRODUCTION

1.1 Background

Malaria is a potentially fatal infectious disease transmitted through the bites of mosquitoes infected with Plasmodium parasites. It remains a significant public health issue worldwide, particularly in sub-Saharan Africa (6). Malaria is a complex disease with variations in epidemiology and its public health impact depending on the region. It affects approximately 3.4 billion people, nearly half of the global population, across 104 countries and territories (7). According to the World Health Organization (WHO), an estimated 198 million cases of malaria were recorded globally, resulting in 584,000 deaths (8). Sub-Saharan Africa, which bears the brunt of the global malaria burden, accounts for 80% of the total cases in just 18 countries (8). In Africa alone, 82% of malaria cases and 90% of malaria-related deaths occur, with the majority of fatalities (78%) involving children under five years old (7). Moreover, around 90% of malaria deaths worldwide are concentrated in 30 sub-Saharan African countries (9).

The cornerstone of global efforts to reduce malaria morbidity and mortality is the effective treatment of malaria patients (10). Effective case management hinges on the prompt recognition of symptoms and signs, coupled with the clinical expertise of healthcare providers. In many malaria-endemic areas, patient management relies heavily on clinical presentation, supported by laboratory tests or rapid diagnostic test (RDT) confirmation where available (11). Many countries, including Tanzania, have adopted evidence-based clinical practice guidelines to assist health workers in assessing, diagnosing, and treating malaria cases (12).

In Tanzania, malaria remains one of the leading causes of morbidity and mortality, particularly among children and pregnant women, posing a significant burden on the healthcare system and the economy (13). Kinondoni Municipal, as one of Tanzania's administrative regions, is no exception to the malaria burden, and the effective management of the disease is critical to ensuring the well-being of its population (14).

Tanzania has continually revised and updated its malaria diagnosis and treatment guidelines over the years to improve the quality of care delivered by healthcare workers (HCWs).

However, the successful implementation of these guidelines depends largely on their consistent use by HCWs, who play a key role in delivering healthcare services (15). Understanding the factors that influence adherence to malaria diagnosis and treatment guidelines among HCWs is vital for optimizing the effectiveness of malaria control programs.

Despite the widespread adoption of WHO guidelines, healthcare practitioners still face difficulties in adhering to them (16). Available data from 2015 show that practitioners often fail to request parasitological confirmation, even when such resources are accessible (15, 16). Moreover, despite negative test results for malaria, patients exhibiting malaria-like symptoms are frequently administered antimalarial drugs (17), even though evidence suggests it is safe not to treat these cases (18). This practice introduces significant risks, such as the potential for misdiagnosis and delayed treatment of other diseases that may present with similar symptoms to malaria.

Adherence to malaria diagnosis and treatment guidelines remains sub-optimal. This situation highlights the need for interventions, including the provision of job aids, improved access to laboratory services, and continuous medical education for health workers, particularly those in higher-level facilities and higher-level cadres, to enhance guideline adherence (14).

About the organization of health services in Tanzania, the Ministry of Health, through its National Malaria Control Program (NMCP), plays a crucial role in overseeing and coordinating efforts to control and manage malaria. The Ministry ensures the dissemination and proper implementation of malaria guidelines across all healthcare levels. However, improving HCW adherence to these guidelines requires enhanced training, better support systems, and improved access to diagnostic tools to ensure that malaria is properly diagnosed and treated according to established protocols. Addressing these factors is essential for reducing the malaria burden and achieving long-term health gains.

Description of the intervention

The Tanzania Malaria Treatment Guidelines serve as a comprehensive framework for the diagnosis and treatment of malaria within the country. Initially established in 2014 and subsequently updated in 2020, these guidelines are instrumental in guiding healthcare

professionals and institutions in the effective management of malaria cases (19). Also involves assessing the impact on key malaria indicators, such as incidence rates, test positivity rates, parasite prevalence, and annual parasite incidence, and thus is a vital tool in the nation's efforts to combat malaria (8).

It established standardization of treatment, Improved Diagnosis, Effective Treatment by providing clear evidence-based recommendations, Prevention of Drug Resistance, Rational Use of Antimalarial, Capacity Building in health workers, and positive Public Health Impact (21).

The broad objective of these guidelines is to provide standard management reference for the care of suspected malaria patients and provide indications for treatment for both asymptomatic and symptomatic malaria cases in the public and private health facilities sectors. Specific objective To stipulate the definition and classification of malaria cases, To promote prompt and accurate malaria diagnosis, To specify the best and efficacious therapeutic option for treatment of uncomplicated and severe malaria, To stipulate at what level of health care delivery, specific antimalarial drugs should be made available at all times, To promote proper management and accountability of quality assured malaria case management commodities, To provide consistent guidance to prescribers and users on the potential of the recommended and evidence-based malaria preventive chemotherapy for specific at-risk group and the need for well-conducted implementation research, To provide information to health care management and services providers on the detection of antimalarial drug resistance (9).

This study focuses on prescribers' adherence to malaria diagnosis and treatment guidelines, providing valuable insights into the challenges faced by prescribers in public health facilities within Kinondoni Municipal, Dar es Salaam. It aims to identify potential areas for improvement in the operational aspects of healthcare delivery and establish a basis for evidence-based policy recommendations and interventions to enhance the accuracy of malaria diagnostic tests and treatment care. This document is organized as follows: Problem Statement, Conceptual Framework, Rationale, Research Questions, Research Objectives, Literature Review, Methodology, Results, Discussion, Conclusion, Recommendations, References, and Appendix.

1.2 Problem statements

In sub-Saharan Africa, healthcare providers frequently prescribe antimalarial drugs without adhering to established guidelines, contributing to unnecessary drug use, drug resistance, and adverse health outcomes.

In Tanzania, only about 55% of healthcare workers comply with national malaria diagnosis and treatment guidelines, and alarmingly, 86% of children under five who test negative for malaria are still prescribed antimalarial drugs (12). This poor adherence leads to resource wastage, increased drug resistance, and the potential for severe health consequences (11).

The main factors contributing to non-adherence include healthcare workers not waiting for the recommended reading times for rapid diagnostic test (RDT) results, lack of trust in test results, poor quality of microscope slides, and patient demands for treatment despite negative test outcomes (22).

In response to this issue, the Tanzanian government introduced updated malaria diagnosis and treatment guidelines in 2020. These guidelines aim to provide a standardized approach for managing both asymptomatic and symptomatic malaria cases in public and private health facilities. They also emphasize consistent guidance for prescribers and users on evidence-based preventive chemotherapy for at-risk groups, highlighting the need for implementation research to assess the effectiveness of these guidelines (9).

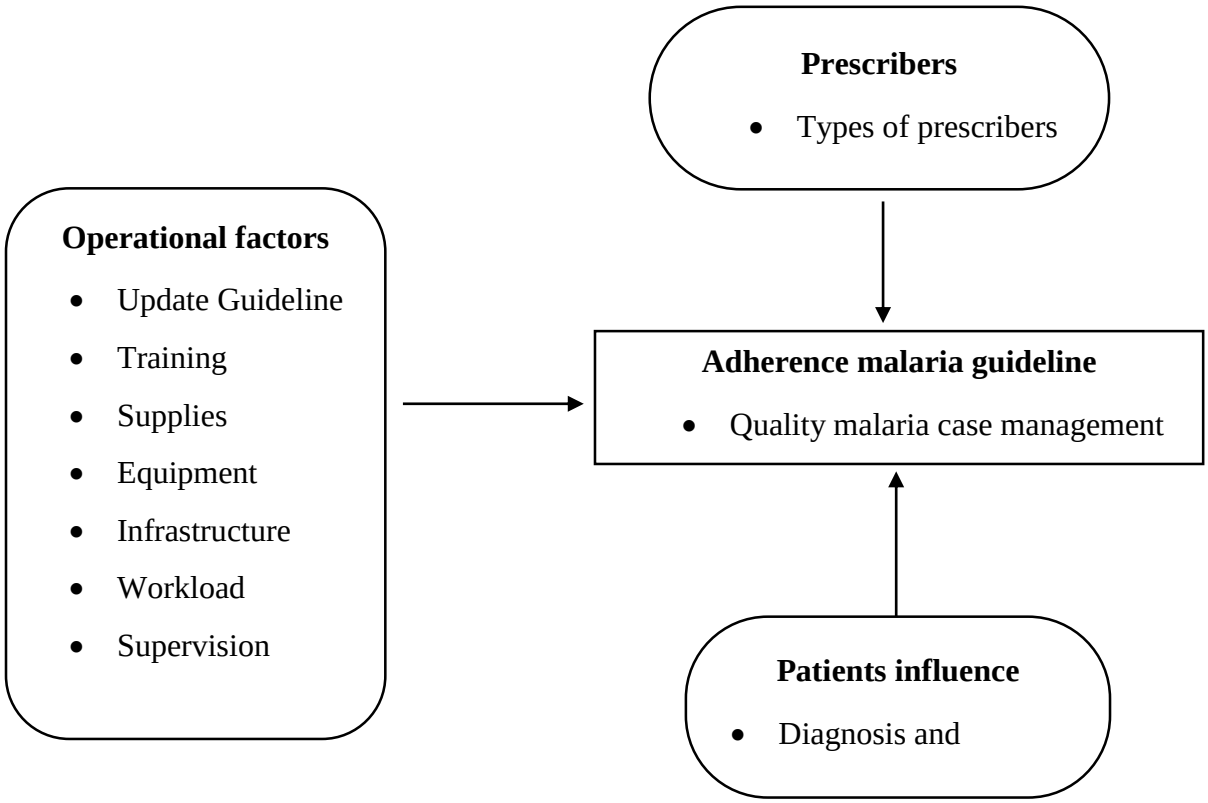
However, despite efforts to improve guideline compliance, there is a gap in the literature addressing how facility environments and patient influences affect the implementation of these guidelines. While existing research has focused on the performance of RDTs, health workers' adherence to test results, and awareness of standard diagnostic practices (23, 24, 25), limited attention has been paid to the influence of healthcare facility operations and patient behavior on guideline adherence.

This study seeks to address this gap by assessing the role of facility operations and patient influences on the prescriber’s adherence to malaria diagnosis and treatment guideline. Understanding these factors is crucial for improving adherence and ensuring better health outcomes in Tanzania.

1.3 The conceptual framework of the study

The conceptual framework developed in this study illustrates the relationship between operational factors, patient influence, and prescriber adherence to malaria diagnosis and treatment guidelines. Operational factors, such as healthcare infrastructure, resource availability, staffing levels, and organizational support, are identified as independent variables that significantly impact prescriber adherence. Additionally, patient influence, including expectations and demand for specific treatments, also plays a critical role in shaping prescriber decision-making. Positioned as the dependent variable, prescriber adherence reflects how these independent variables interact to affect healthcare outcomes. By highlighting these relationships, the framework offers valuable insights for designing targeted interventions to improve adherence, thereby enhancing the quality of malaria care delivery and contributing to more effective malaria control efforts in Kinondoni Municipal.

Figure 1: Developed from the literature conceptual framework



1.4 Study Rationale

The findings of the study pointed out the critical need for improved prescriber adherence to malaria diagnosis and treatment guidelines in Kinondoni Municipal. The research emphasizes the importance of effective planning, training, and knowledge enhancement among prescribers. By identifying variations in adherence levels, it suggests the implementation of targeted training programs to address specific gaps and boost compliance. Additionally, the findings highlight the necessity of continuous assessment and support to optimize diagnosis and treatment practices. Ultimately, this study provides valuable insights for health organizations and stakeholders, contributing to enhanced malaria care delivery and improved patient outcomes in the region.

1.5 Research question

1.5.1 Main Research Question:

To what extent prescriber's adherence to malaria diagnosis and treatment guidelines and what are the associated factors in Kinondoni public health facilities, Dar es Salaam?

1.5.2 Specific Research Questions:

i. To what extent do prescribers adhere to malaria diagnosis and treatment guidelines?
ii. What are the operational factors affecting adherence to malaria diagnosis and treatment guidelines?
iii. What is the patient's influence on the implementation of malaria diagnosis and treatment guidelines?

1.6 Research objectives

1.6.1 Broad objective

To assess prescriber's adherence to malaria diagnosis and treatment guidelines and associated factors in Kinondoni public health facilities, Dar es Salaam.

1.6.2 Specific objectives

i. To determine the level of adherence among prescribers to malaria diagnosis and treatment guidelines.
ii. To assess the operational factors affecting adherence to malaria diagnosis and treatment guidelines.

iii. To assess the patient's influence on prescriber’s adherence to malaria diagnosis and treatment

CHAPTER TWO

2.0 LITERATURE REVIEW

2.1 Adherence among prescribers to malaria diagnosis and treatment guidelines.

The existing literature examining the level of adherence among healthcare workers to systematic diagnosis protocols outlined in malaria diagnosis and treatment guidelines forms a critical foundation for understanding the challenges and successes in implementing these guidelines in Kinondoni Municipal. Studies in various contexts have investigated factors influencing healthcare workers' adherence, including knowledge and awareness, training programs, resource availability, and organizational support (25). Moreover, Studies have shown that healthcare providers with comprehensive training on malaria diagnosis and treatment guidelines are more likely to adhere to them (26). Therefore, assessing the extent of knowledge and training among healthcare providers is a fundamental component of this research

Research findings have revealed a spectrum of adherence levels, with some studies identifying high compliance rates (4.27) and others pointing to obstacles such as insufficient training, inadequate resources, and varying degrees of guideline awareness. A study done in Tanzania revealed that false positives and false negatives Errors caused by placing too much blood on the sample well or not enough buffer in the corresponding wells resulted in inconsistent test findings that have an impact on patient treatment. Test results were typical for a single test line (27). Another study conducted in Malawi found that the percentage of people in Zambia and Zanzibar who received the recommended malaria medication based on RDT results ranged from 39.7 percent to 99.9 percent (27).

These insights highlight the complexity of factors influencing adherence among healthcare workers, emphasizing the need for targeted interventions to improve adherence rates and consequently, enhance the effectiveness of malaria control efforts in Kinondoni Municipal.

2.2 Operational factors affecting the adherence to malaria diagnosis and treatment guidelines.

The available literature underscores the importance of investigating operational factors within health facilities that notably influence the application of malaria diagnosis and treatment

guidelines in settings similar to Kinondoni Municipal. Research in this domain has explored a range of operational determinants, including healthcare infrastructure, availability of diagnostic tools and medications, healthcare worker knowledge and skills, workflow dynamics, and logistical challenges in implementing guideline recommendations (28).

Resource availability and health system factors within healthcare facilities can influence adherence. Resource constraints, such as shortages of diagnostic tests or medications, can drive healthcare providers to prioritize expediency over guideline adherence (29). Additionally, broader health system issues, such as inadequate staffing and lack of supervision, can create an environment where guideline non-adherence is more likely (30).

Findings from these studies emphasize the need for tailored interventions addressing specific operational barriers to ensure the effective application of malaria guidelines. This is because evidence has indicated that RDTs in the hands of HCWs may safely improve early and well-targeted ACT treatment in malaria patients (31). Moreover, the literature emphasizes the role of organizational leadership, governance structures, and collaborative efforts among healthcare providers and stakeholders in shaping the operational environment for guideline adherence (32). By synthesizing insights from these studies, this research aims to contribute to a comprehensive understanding of the operational factors affecting the practical application of malaria diagnosis and treatment guidelines in the unique context of Kinondoni Municipal.

2.3 Patients, influence on prescriber the implementation of malaria diagnosis and treatment.

The effective management of malaria relies on adherence to established guidelines. These guidelines encompass diagnostic processes, which involve the use of reliable tools such as rapid diagnostic tests (RDTs) and microscopy, and the prescription of antimalarial drugs based on confirmed diagnoses (WHO, 2015). Adherence to these guidelines is essential to ensure that patients receive the appropriate treatment (26). Studies have explored factors such as healthcare infrastructure, resource availability, healthcare worker training, workflow processes, and management support, emphasizing their role in shaping the effective implementation of malaria guidelines (33)(34).

Research indicates a syndromic therapy of the patient, which can be attributed to non-adherence to RDT results or a lack of diagnostic facilities (5). This has significantly decreased the incentive for medical professionals to look for and treat alternative fever causes, which

has led to the continuation of high drug pressure and the potential for parasite tolerance or resistance to ACT. This presents a risk to antimicrobial resistance and the efficient treatment of malaria (21).

Additionally, the literature highlights the influence of contextual factors, such as local health policies, community engagement, and collaboration between healthcare providers, on the operationalization of malaria guidelines within health facilities (35) as these policies tell what to do and what to deliver. Recognizing the complexity of these operational determinants is essential for designing targeted interventions and policy recommendations to enhance the utilization of guidelines, ultimately contributing to more efficient malaria control efforts in Kinondoni Municipal.

Summary of literature review gaps

The literature reveals significant gaps in understanding adherence to malaria diagnosis and treatment guidelines among prescribers, particularly in the Kinondoni Municipal context. While studies highlight the influence of knowledge, training, and resource availability on adherence rates, they often lack a comprehensive assessment of how these factors interact within the specific healthcare environment of Kinondoni. Furthermore, operational factors affecting adherence, such as healthcare infrastructure and logistical challenges, are underexplored, especially concerning the unique barriers faced by local healthcare facilities. Additionally, the impact of patient influence on prescribers' adherence to guidelines remains insufficiently investigated, with existing research focusing primarily on structural and procedural elements rather than the socio-cultural dynamics that may affect guideline implementation. Addressing these gaps is crucial for developing targeted interventions that enhance adherence and improve malaria control outcomes in the region.

CHAPTER THREE

3.0 RESEARCH METHODOLOGY

3.1 Introduction

This section describes the research methodology that was used in the study. It includes information about the study area, study population, sample size, data collection tools, study variables and their metrics, target and study populations, sampling method, data processing and analysis approaches, validity assessment, variability examination, ethical considerations, training of research assistants involved in data entry cleaning and analysis, inclusion and exclusion criteria. It also talks about how research findings are shared.

3.2 Study design

The study utilized a descriptive study design cross-sectional with a quantitative approach, which is appropriate for assessing the prevalence of conditions, behaviors, and characteristics related to prescriber adherence. This design is also effective for identifying factors associated with these variables. The cross-sectional nature allows for a snapshot of the current implementation status of malaria diagnosis and treatment guidelines, which were updated in 2020, making it suitable for evaluating how well these guidelines are being followed at a specific point in time.

3.3 Study Area

The research was conducted in Kinondoni Municipality, which hosts a total of 197 registered health facilities. Among these, 27 are publicly owned, while 170 are private, parastatal, or faith-based establishments. These facilities offer outpatient, inpatient, and clinical services, including hospitals, health centers, and dispensaries. Annually, these health facilities collectively serve an average of 1,649,548 patients. The healthcare workforce in these establishments comprises clinicians, nurses, pharmacists, laboratory technicians, medical attendants, and social workers. The study specifically focused on 20 public health facilities within this context: one district hospital, five health centers, and fourteen dispensaries.

3.4 Study population

This study included 135 prescribers in Kinondoni public health facilities, prescribers who include clinical officers, assistant medical officers, and medical officers.

3.5 Sample Size and Sampling Technique

3.5.1 Sample size

By using Fischer's Formula to estimate the sample size included in this study; the proportion of 90.14% was obtained from the study done (15).

The sample size, $\boldsymbol{n = \frac{Z^2 P(1-P)}{\varepsilon^2}}$

Where;

n = sample size

Z= confidence interval level, 95% in this study which is 1.96

P= proportion from the previous study here assumed to be 85%

ε = margin of error, which is approximately 5%

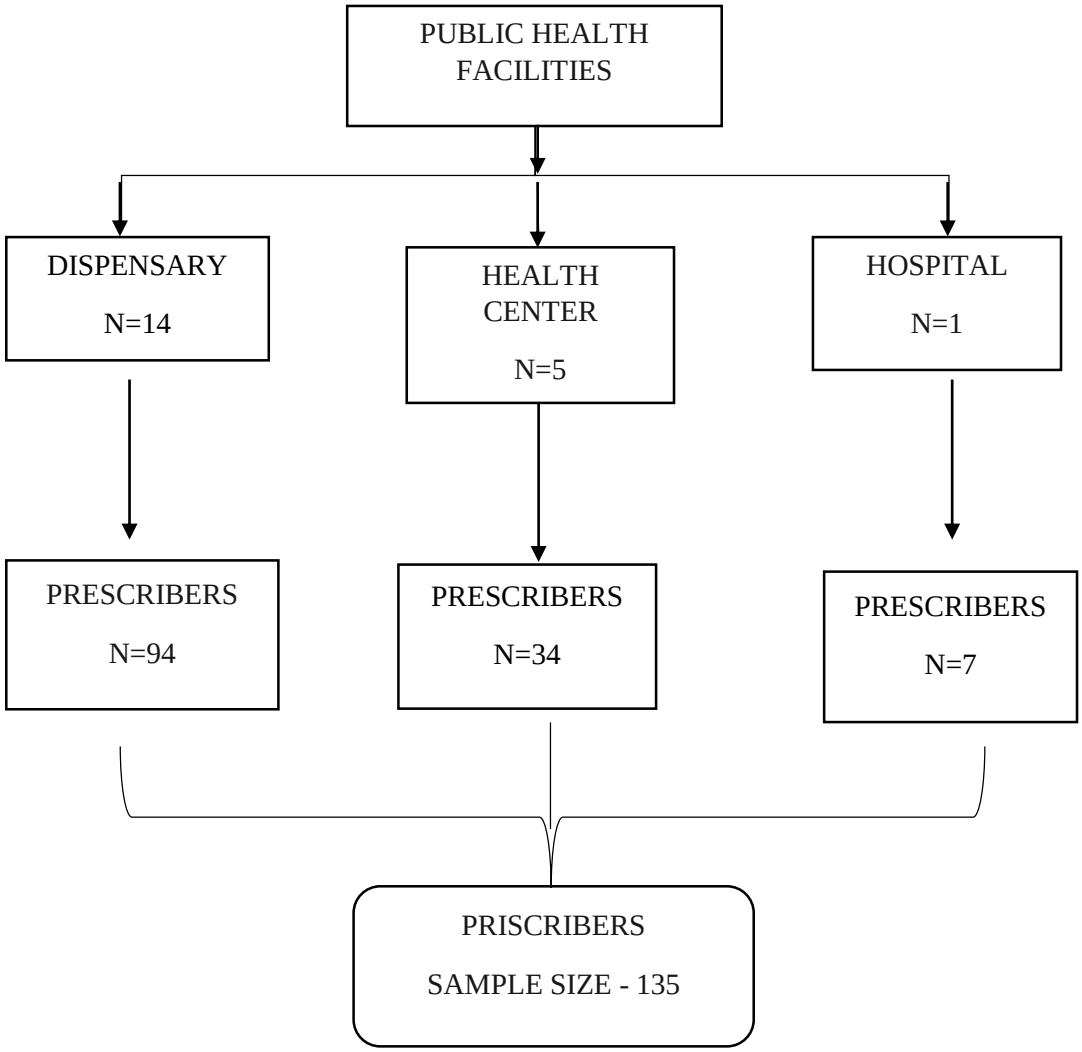
$n = \frac{1.96^2 0.9014(1-0.9014)}{0.05^2}$

n=135

3.5.2 Sampling technique

Stratified sampling was employed to ensure a representative sample of 135 prescribers across various public health facilities in Kinondoni municipalities. The population was divided into three strata based on facility type: district hospitals, health centers, and dispensaries. This approach was chosen to capture a proportional representation across different health facility types according to the number of populations and high-incidence malaria results reported per year. From the district hospital, 7 prescribers were selected due to their singular presence. Five health centers were sampled, with 34 prescribers. Additionally, 14 dispensaries contributed 94 prescribers. These prescribers were chosen using a convenience sampling technique based on their accessibility and availability, minimizing sampling bias and enhancing the accuracy of insights into the implementation of malaria diagnosis and treatment guidelines

Figure 2: Sample size framework structure



3.6 Inclusion and Exclusion Criteria

3.6.1 Inclusion Criteria

Prescribers involved in the implementation of malaria diagnosis and treatment guidelines, both in outpatient and inpatient departments of public health facilities in Kinondoni Municipality, Dar es Salaam.

Prescribers who were present at Kinondoni public health facilities on the days of data collection.

Prescribers who registered as practitioners working in public health facilities in Kinondoni municipality Dar es Salaam.

3.6.2 Exclusion Criteria

Prescribers (clinical officers, assistant medical officers, and medical officers) were not professional register during data collection.

Prescriber with less than 1 year of experience in clinical practice

3.7 Dependent and Independent Variables and Their Measures

3.7.1 Dependent Variable

In this study, adherence to the guidelines was quantitatively measured through public healthcare workers' responses categorized into discrete categories: (Yes, always,Yes, sometimes, and Not at all.)

3.7.2 Independent Variables

Patient influence on prescribing practices and operational factors affecting the usefulness of the guidelines were quantitatively measured through public healthcare workers' responses, categorized as (Yes, always, Yes, sometimes, and Not at all.)

3.8 Data Collection methods

Questionnaires were developed to gather information on prescribers' adherence to protocols. The data collection process involved public healthcare professionals in Kinondoni Municipality, Dar es Salaam. Data were collected using a pretested tool, the structured Questionnaire, which was developed based on variables identified in the national malaria diagnosis and treatment guidelines. Aimed to capture sociodemographic characteristics of prescribers such as age, sex, education level, years of experience, and their adherence to malaria management protocols. It was prepared in English and Kiswahili and pretested in public health facilities located in Kinondoni Municipality within the study area.

3.9 Validity and Reliability

3.9.1 Validity

The data collection instruments in this study were validated through content, construct, and criterion validity to ensure accurate measurement of the research objectives. Content validity was ensured by an expert review of the questionnaire and checklist, confirming that they comprehensively addressed all aspects of the study's aims. Construct validity was established by aligning the questions with the theoretical concepts of adherence to malaria diagnosis and treatment guidelines, ensuring they accurately captured the intended constructs. Criterion validity was verified by comparing the tools to established benchmarks and standards in similar studies, confirming that they produced reliable and relevant measurements consistent with recognized guidelines in the field.

3.9.2 Reliability

The reliability of the research tools was confirmed through a pre-test, which ensured consistency and accuracy in data collection. The pre-test involved administering the questionnaire and checklist to a small sample similar to the study population, allowing for the identification and correction of any ambiguous or unclear items. This process helped to refine the tools, ensuring that they consistently and accurately captured the data required to evaluate adherence to malaria diagnosis and treatment guidelines.

3.9.3 Pre-test of the Tool

A three-week pre-test of the tools was conducted in Kinondoni Municipality before actual data collection. This ensured questions were easily understood and respondents were willing to provide sufficient information. Mabwepande District Hospital, Kawe Health Center, and Tegeta Dispensary were chosen for the pre-test due to their setting similar to other public health facilities in Kinondoni Municipality.

3.9.4 Research Assistants Training

Two research assistants with relevant backgrounds were trained in data collection techniques and ethical considerations. They participated in the pre-test phase to familiarize themselves with research methodologies and tools, and introduced themselves to participants during data collection, explaining the study's objectives and potential benefits.

3.10 Data Management and Analysis

3.10.1 Data Management

Data were entered, cleaned, and analyzed using SPSS software. Descriptive statistics were presented in frequency tables, and continuous variables as mean ± standard deviation. The Chi-square ($\chi 2$) test compared categorical variable distributions; Fisher's exact test was used when appropriate. Statistical significance was set at $P < 0.05$ to determine differences between groups and variables

3.11 Data Analysis

The dependent variable for analysis was prescribers' adherence to national treatment guidelines for malaria management in public health facilities, categorized as strict adherence, partial adherence, or non-adherence. Strict adherence involved choosing antimalarial drugs listed in the national guideline; partial adherence included parasitological confirmation but non-compliant drug selection; and non-adherence occurred without parasitological confirmation and deviating from guidelines.

Table 1: Analysis corresponding to the objectives

S/N	Objectives	Data analysis	Data presentation
1.	To determine the level of adherence among prescribers to malaria diagnosis and treatment guidelines.	Descriptive and inferential analysis of categorical (nominal) variables related to adherence to malaria guidelines among prescribers	Frequency distribution tables and percentages were appropriate for presenting the adherence levels across different categories of prescribers.
2.	To assess the operational factors affecting adherence to malaria diagnosis and treatment guidelines.	Descriptive and inferential analysis of categorical (nominal) variables related to operational factors influencing prescribers' adherence to malaria guidelines.	Frequency distribution tables and percentages effectively present how different operational factors impact guideline adherence among prescribers' percentage

3.	To assess the patients, and influence prescribers on the implementation of malaria diagnosis and treatment.	Descriptive and inferential analysis of categorical (nominal) variables related to patient influence on prescribers' decisions in malaria diagnosis and treatment	Frequency distribution tables and percentages show how patient influence varies across different prescriber categories and adherence levels.

3.12 Ethical consideration

Ethical approval for the study was obtained from the Muhimbili University of Health and Allied Sciences (MUHAS) Institutional Research Board (IRB), under reference number DA.282/298/01.C/2134. Additionally, permission to conduct the research in Kinondoni was granted by the Kinondoni Municipal Council, through the District Medical Officer (DMO) and the Regional Administrative Secretary (RAS) of Dar es Salaam. Prior to data collection, written informed consent was obtained from all participants, and the purpose of the study was explained to the health facility in-charges, from whom permission was also sought. Privacy and confidentiality were strictly maintained throughout the study, and any information obtained from medical records was disclosed solely for research purposes.

CHAPTER FOUR

4.0 RESULTS

4.1 QUANTITATIVE FINDINGS

4.1.1 Socio-Demographic characteristics

The socio-demographic analysis of the 135 prescribers indicates a predominance of individuals working in dispensaries (70.0%), with clinical officers constituting the largest group (68.9%). The gender distribution shows a majority of male prescribers (54.8%), and the most represented age group is 31-40 years (57.0%). Most prescribers have 3-5 years of experience (44.4%), followed by those with over 10 years (31.9%). These characteristics suggest that prescribers are predominantly mid-career clinical officers in dispensaries, which may influence their adherence to malaria diagnosis and treatment guidelines, given their varying levels of experience and demographic context.

Table 2: Socio-demographic characteristics

Variable	Value	Frequency N=135	
		n	%
Health facilities	Hospital	7	5.0
	Dispensary	94	70.0
	Health Center	34	25.0
Sex	Male	74	54.8
	Female	61	45.2
Age (years)	21-30	14	10.4
	31-40	77	57.0
	41-50	33	24.4
	51-60	11	8.1
Types of prescribers	Assistant Medical Officer	14	10.4
	Clinical Officer	93	68.9
	Medicine Officer	28	20.7

Years of experience	2 years and less	4	3.0
	3-5 years	60	44.4
	6-9 years	28	20.7
	10 years and above	43	31.9

4.1.2 Prescribers Adherence Level

The category of prescriber was found to significantly affect adherence levels, as indicated by the p-value of 0.03. Clinical Officers had the highest rates of strict adherence (77.3%) and partial adherence (67.1%), while Medical Officers showed the highest level of non-adherence (55.6%) and the lowest level of strict adherence (9.1%). Assistant Medical Officers demonstrated a relatively high level of strict adherence (13.6%) and had no cases of non-adherence. These differences suggest that prescriber expertise and role significantly influence how well guidelines are followed, with Clinical Officers adhering more closely to the protocols compared to Medical Officers.

Table 3: Prescribers Adherence Level

Prescribers	Adherence Frequency (%)			Total	P - value
	Non-Adherenc	Partial Adherence	Strict Adherence		
Clinical Office	4(44.4)	55(67.1)	34(77.3)	93(68.9)	0.03
Assistant Medical Office	0(0.0)	5(9.8)	6(13.6)	14(10.4)	
Medical Office	5(55.6)	19(23.2)	4(9.1)	28(20.7)	
Total	9(100.0)	82(100.0)	44(100.0)	135(100)	

4.2 Health facilities adherence

The type of health facility plays a significant role in adherence to guidelines, with a p-value of 0.03. Dispensaries and health centers exhibited similar adherence patterns, with partial adherence being the most common (57.1% and 58.0%, respectively) and a smaller portion achieving strict adherence (37.1% and 36.0%, respectively). Hospitals, however, showed a higher rate of partial adherence (86.7%) and no instances of strict adherence, suggesting challenges in hospital settings regarding strict compliance. Non-adherence was highest in hospitals (13.3%) compared to dispensaries (5.7%) and health centers (6.0%), indicating that the type of facility is a critical determinant of adherence behavior.

Table 4: Health facilities adherence

Health Facilities	Adherence Frequency (%)			Total	P - value
	Non-Adherence	Partial Adherence	Strict Adherence		
Dispensary	4(5.7)	40(57.1)	26(37.1)	70(100)	0.03
Health Center	3(6.0)	29(58.0)	18(36.0)	50(100)	
Hospital	2(13.3)	13(86.7)	0(0.0)	15(100)	
Total	9(6.7)	82(60.7)	44(32.6)	135(100)	

4.3 Working Experience Adherence

The experience of prescribers also emerged as a statistically significant factor influencing adherence, with a p-value of 0.04. Prescribers with 3-5 years of experience had the highest level of strict adherence (35.0%) and a majority showed partial adherence (61.7%), indicating a balance between learning and following protocols. Those with 6-9 years of experience had the highest rate of non-adherence (14.3%) but also the highest rate of partial adherence (64.3%), suggesting possible complacency or workload challenges with increased experience. Prescribers with 10 or more years of experience demonstrated relatively high adherence (strict adherence 34.9%), although they also showed some non-adherence (7.0%), indicating that experience alone does not guarantee compliance.

Table 5: Working Experience Adherence

Level of Experience in Years	Adherence Frequency (%)			Total	P - valu
	Non-Adherenc	Partial Adherenc	Strict Adherenc		
2 years and less	0(0.0)	2(50.0)	2(50.0)	4(100)	0.04
3-5 years	2(3.3)	37(61.7)	21(35.0)	60(100)	
6-9 years	4(14.3)	18(64.3)	6(21.4)	28(100)	
10 years and abov	3(7.0)	25(58.1)	15(34.9)	43(100)	
Total	9(6.7)	44(32.6)	82(60.7)	135(100)	

4.3.1 Operational Factors Affecting Adherence

The results indicate that three operational factors significantly affect adherence to malaria guidelines based on a p-value equal to or less than 0.05: workload and staffing level (p=0.01), supervision and monitoring (p=0.05), and training and knowledge of prescribers (p=0.02).

Workload, staffing levels, supervision, and prescriber training all significantly impacted adherence to malaria treatment guidelines. Facilities with manageable workloads and adequate staffing had higher adherence rates, while overwhelming workloads contributed to lower compliance. Regular supervision and monitoring were associated with better adherence, emphasizing the need for strong supervisory structures. Additionally, prescribers who were well-trained and knowledgeable demonstrated higher adherence, highlighting the importance of continuous professional development and regular training programs to ensure prescribers stay updated on malaria treatment protocols. Improving these factors can enhance guideline adherence and overall malaria care quality.

Table 6: Operational factors affecting adherence

Variable	Categories	Adherence Frequency (%)			P - Value
		Non-Adherence	Partial Adherence	Strict Adherence	
Availability of updated Guideline	Not at all	3 (22.2)	17(15.9)	7(15.9)	
	Yes always	3 (33.3)	73(71.8)	35(56.8)	
	Yes sometimes	4 (44.5)	45(33.3)	12(27.3)	0.41
Availability of Diagnostic Tools and Medication	Not at all	3(33.3)	12(8.9)	2(4.5)	
	Yes always	2(22.2)	5(3.7)	1(2.3)	
	Yes sometimes	4(44.5)	118(87.4)	41(93.2)	0.15
Workload and staffing level	Not at all	1(11.1)	17(12.6)	6(13.6)	
	Yes always	0 (0.0)	9(6.7)	0(0.0)	
	Yes sometimes	8(88.9)	109(80.7)	38(76.8)	0.01
Supervision and Monitoring	Not at all	4(44.4)	12(14.6)	9(20.5)	
	Yes always	5(55.6)	36(43.9)	13(29.5)	
	Yes sometimes	0 (0.0)	20(24.4)	12(37.3)	0.05
Health facility infrastructure	Not at all	7(77.8)	32(39.0)	12(27.3)	
	Yes always	2(22.2)	26(31.7)	11(25.0)	
	Yes sometimes	0(0.0)	24(29.3)	21(47.7)	0.17
Training and knowledge of Prescriber	Not at all	0(0.0)	3(3,7)	2(4.5)	
	Yes always	8(88.9)	52(63.4)	26(59.1)	0.02

	Yes sometimes	1(11.1)	27(32.9)	16(36.4)	
Supply chain Management	Not at all	5(55.6)	39(47.6)	24(54.5)	
	Yes always	4(44.4)	43(52.4)	15(34.1)	
	Yes sometimes	0(0.0)	0(0.0)	5(11.4)	0.06

4.3.2 Operational factors affecting Prescribe adherence

The analysis of operational factors affecting prescribers' adherence to medical guidelines, focusing on variables with a p-value equal to or less than 0.05, highlights three key factors: workload and staffing level (p=0.01), supervision and monitoring (p=0.05), and training and knowledge of prescribers (p=0.02).

The study revealed that workload, staffing levels, supervision, and training significantly influenced prescriber adherence to malaria treatment guidelines. Manageable workloads and adequate staffing led to higher adherence, while inadequate staffing resulted in more non-adherence. Regular supervision was crucial, with better adherence observed among Clinical Officers who received consistent supervision. Furthermore, well-trained prescribers, particularly Medical and Clinical Officers, demonstrated higher adherence, emphasizing the importance of continuous education. These findings highlight the need for balanced staffing, robust supervisory mechanisms, and ongoing training to improve adherence to malaria diagnosis and treatment guidelines in Kinondoni Municipal health facilities.

Table 7: Operational factors affecting Prescribe adherence

Variable	Categories	Prescribers Frequency (%)			Total	P- Value
		Clinical Officer	Assistant Medical Officer	Medical Officer		
Availability of updated Guideline	Not at all	14(82.4)	3(17.6)	0(0.0)	17(100)	
	Yes always	56(76.7)	5(6.8)	12(16.4)	73(100)	
	Yes sometimes	23(51.1)	6(13.6)	16(35.6)	45(100)	0.31
Availability of Diagnostic Tools and Medication	Not at all	8(66.7)	1(8.3)	3(25.0)	12(100)	
	Yes always	2(40.0)	0(0.0)	3(60.0)	5(100)	
	Yes sometimes	83(70.3)	13(11.0)	22(18.6)	118(100)	0.21
Workload and staffing level	Not at all	8(47.1)	3(17.6)	6(35.3)	17(100)	
	Yes always	8(88.9)	0(0.0)	1(11.1)	9(100)	
	Yes sometimes	77(70.6)	11(10.1)	21(19.3)	109(100)	0.01
Supervision and Monitoring	Not at all	21(84.0)	1(4.0)	3(12.0)	25(100)	
	Yes always	32(59.3)	10(18.5)	12(22.2)	54(100)	
	Yes sometimes	16(50.0)	3(9.4)	13(40.6)	32(100)	0.05
Health facility infrastructure	Not at all	4(80.0)	1(20.0)	0(0.0)	5(100)	
	Yes always	59(68.8)	8(9.3)	19(22.1)	86(100)	
	Yes sometimes	30(68.2)	5(11.4)	19(20.3)	44(100)	0.75
Training and knowledge of Prescriber	Not at all	46(67.6)	7(10.3)	15(22.1)	68(100)	
	Yes always	44(71.0)	6(9.7)	12(19.4)	62(100)	0.02

	Yes sometimes	3(60.4)	1(20.0)	1(20.0)	5(100)	
Supply chain Management	Not at all	36(76.6)	0(0.0)	11(23.4)	47(100)	
	Yes always	23(59.0)	7(17.9)	9(23.1)	39(100)	
	Yes sometimes	34(69.4)	7(14.3)	8(16.3)	49(100)	0.06

4.3.3 Patient Influence on Prescriber Adherence

The analysis reveals that patient demand for malaria treatment significantly influences prescribers' adherence to medical guidelines, with a p-value of 0.01. When there is no patient demand, adherence is at 100% for Clinical Officers; however, this drops to 62.7% when demand is always present and further decreases to 62.2% when demand is sometimes present. This suggests that prescribers, especially Clinical Officers, may feel pressured to deviate from guidelines due to patient expectations for treatment.

Table 8: Patient Influence Prescribers Adherence

Variable	Categories	Prescribers Frequency (%)			Total	P - Value
		Clinical Officer	Assistant Medical Officer	Medical Officer		
Patient demand Malaria Diagnosis	Not at all	52(72.2)	6(8.3)	14(19.4)	72(100.0)	0.08
	Yes always	16(51.6)	7(22.6)	8(25.8)	31(100.0)	
	Yes sometimes	25(78.1)	1(3.1)	6(18.8)	32(100.0)	
Patient demand Malaria Treatment	Not at all	23(100.0)	23(100.0)	0(0.0)	23(100.0)	0.01
	Yes always	47(62.7)	10(13.3)	18(24.0)	75(100.0)	
	Yes sometimes	23(62.2)	4(10.4)	10(27.0)	37(100.0)	

4.3.4 Patient influence on prescribers by adherence Level

The analysis of patient influence on prescribers' adherence to malaria guidelines highlights significant findings. Patient demand for malaria diagnosis significantly impacts adherence levels, with a p-value of 0.03. Strict adherence is highest (51.6%) when there is no demand, while partial adherence is notable at 48.4%. However, consistent patient demand leads to an increase in non-adherence (6.3%) and a slight decrease in strict adherence (46.9%), indicating that increased patient pressure may result in guideline deviations.

Similarly, patient demand for malaria treatment also significantly affects adherence, with a p-value of 0.01. Non-adherence is at 9.3% without demand, but this drops to 5.4% when demand is always present, while strict adherence rises to 37.8%. This suggests that patient expectations can pressure prescribers, potentially enhancing or diminishing adherence.

Table 9: Patient influence on prescribers by adherence Level

Variable	Categories	Adherence level Frequency (%)			Total	P - Value
		Non-Adherence	Partial Adherence	Strict Adherence		
Patient demand Malaria Diagnosis	Not at all	0(0.0)	15(48.4)	16(51.6)	31(100)	0.03
	Yes always	2(6.3)	15(46.9)	15(46.9)	32(100.)	
	Yes sometimes	0(0.0)	15(65.2)	8(34.8)	23(100)	
Patient demand Malaria Treatment	Not at all	7(9.3)	46(61.3)	22(29.3)	75(100)	0.01
	Yes always	2(5.4)	21(56.8)	14(37.8)	37(100)	
	Yes sometimes	4(10.4)	24(60.0)	12(10.4)	40(100)	

Result Summary

The study reveals significant variations in adherence to malaria diagnosis and treatment guidelines, influenced by prescriber category, health facility type, experience, and patient demand. Clinical Officers showed the highest strict adherence rates, while Medical Officers

had the lowest, with a substantial rate of non-adherence. Facility types also impacted adherence, with hospitals displaying no strict adherence and higher non-adherence compared to health centers and dispensaries. Experience played a role, as prescribers with 3-5 years of experience had the highest adherence, while those with 6-9 years showed the highest non-adherence. Operational factors like manageable workloads, adequate staffing, regular supervision, and proper training were linked to better adherence. Patient demand was a critical influence, with increased demand leading to lower adherence, especially among Clinical Officers, indicating that patient expectations can drive deviations from guidelines. These findings highlight the complex interplay of prescriber roles, facility characteristics, operational conditions, and patient factors in shaping guideline adherence.

CHAPTER FIVE

5.0 DISCUSSION

5.1 Introduction

This chapter sets forward a comprehensive discussion of research findings in line with research objectives. It involves a discussion of findings to establish to prescriber's adherence to malaria diagnosis and treatment guidelines and associated factors in public health facilities of Kinondoni Municipal in Dar es Salaam.

5.2 Discussion

This study assessed prescribers' adherence to malaria diagnosis and treatment guidelines and the factors influencing this adherence in public health facilities within Kinondoni Municipal, Dar es Salaam. The findings indicate varying demographic characteristics, adherence among prescribers across different healthcare settings, operational factors, and patient influences on this adherence.

Adherence among prescribers to malaria diagnosis and treatment guidelines

This study revealed notable differences in adherence to malaria diagnosis and treatment guidelines among prescribers in Kinondoni Municipal. Clinical Officers demonstrated the highest adherence rates, partial (67.1%) and strict (77.3%), likely due to their specific training and consistent exposure to malaria cases. Medical Officers, however, exhibited the highest non-adherence (55.6%) and the lowest strict adherence (9.1%), possibly reflecting the broader range of responsibilities and higher patient loads that reduce focus on guideline adherence. Assistant Medical Officers showed moderate adherence levels, with no non-adherence and a strict adherence rate of 13.6%. These findings align with studies in Tanzania and Malawi (5,23) which indicate that adherence is influenced by prescriber training, workload, and the clinical setting. Regarding health facility types, dispensaries and health centers had comparable adherence patterns, but hospitals faced more challenges, with the highest partial adherence rate of 86.7% and no strict adherence. These variations are statistically significant ($p = 0.03$) and suggest that both prescriber roles and facility types are critical determinants of adherence. Targeted interventions, including focused training and resource allocation, can enhance guideline adherence, particularly in high-volume hospital settings.

Operational factors affecting adherence to malaria diagnosis and treatment guidelines

The study identified key operational factors that significantly affect adherence to malaria guidelines, including workload and staffing, supervision and monitoring, and prescriber training. Workload and staffing levels had the most substantial impact, with manageable workloads and adequate staffing correlating with higher adherence rates ($p = 0.01$). This finding is consistent with broader research, showing that high patient loads compromise care quality across sub-Saharan Africa (33). Supervision also played a crucial role, with structured oversight correlating with higher adherence ($p = 0.05$), as supported by studies showing that supervision enhances clinical performance and guideline adherence (6,34). Training and knowledge were also significantly linked to adherence ($p = 0.02$), reinforcing the importance of ongoing professional development for healthcare workers. The study highlights the need for policies that ensure adequate staffing, regular supervision, and continuous training to improve guideline adherence. These findings support public health efforts to optimize operational factors for better malaria case management in Kinondoni.

Patient influence on prescriber adherence to malaria diagnosis and treatment

The study also explored how patient demands impact prescribers' adherence to malaria guidelines. Results show that patient pressure for malaria treatment significantly affects adherence, with a p-value of 0.01. High patient demand for treatment often leads to deviations from established guidelines, especially among Clinical Officers. This finding is consistent with previous research showing that patient expectations can pressure healthcare workers into deviating from standard protocols (41,42,43). Adherence to diagnostic guidelines was also influenced by patient demands, though less significantly than treatment demands ($p = 0.03$). Prescribers exhibited the highest strict adherence (51.6%) when patient pressure was absent. This emphasizes the need for patient education to manage expectations and reduce pressure on prescribers. The findings suggest that public health policies should focus on supporting prescribers in resisting unnecessary patient-driven deviations from guidelines, possibly through improved communication strategies and patient education programs.

Implication of findings

The study's findings underscore the need for comprehensive policy reforms that address both prescriber and operational factors to enhance adherence to malaria diagnosis and treatment

guidelines in Kinondoni Municipal. Interventions such as specialized training programs for different prescriber categories, resource allocation to hospitals, and the implementation of workload management strategies are critical. Additionally, policies promoting regular supervision and monitoring and patient education campaigns to manage demand could significantly improve adherence rates. Public health authorities should prioritize these measures to strengthen malaria control efforts and improve patient outcomes in similar settings.

5.3 Limitations and Mitigations

The study faced challenges due to the limited number of prescribers and patient overcrowding, which affected the accuracy and completeness of data collection by increasing workload and causing rushed interactions. To address these limitations, several mitigation strategies were employed. Workload redistribution was implemented to alleviate pressure on prescribers. Data collection was strategically scheduled during off-peak hours, and an appointment system was introduced to better manage patient flow. Pre-study briefings with clear instructions helped ensure prescriber cooperation, while dedicated spaces and flow management techniques reduced distractions during data collection. Incentives were also offered to both prescribers and patients, enhancing participation and improving data quality, thereby minimizing sampling errors and response biases.

CHAPTER SIX

6.0 CONCLUSION AND RECOMMENDATIONS

6.1 Introduction

This section presents a summary of the findings, conclusion, and suggestions based on the findings. The major objective was to assess the prescriber's adherence to malaria diagnosis and treatment guidelines and associated factors in public health facilities of Kinondoni Municipal in Dar es Salaam.

6.2 Conclusion implication of conclusion

The study assessed prescribers' adherence to malaria diagnosis and treatment guidelines in public health facilities of Kinondoni Municipal, Dar es Salaam, and identified the factors associated with adherence. The findings revealed partial adherence across all public health facilities, with significant variations among different professional categories, such as clinical officers, assistant medical officers, and medical doctors. Operational factors, including the availability of prescribers to reduce workload, regular supervision, and ongoing training, were found to be critical in influencing adherence levels.

Patient influences, particularly demands for specific malaria treatments and diagnostic methods, also played a significant role in adherence. Managing patient expectations through effective communication and education is essential to align their preferences with best practice guidelines. Addressing these operational challenges and patient-related factors can lead to improved adherence to malaria guidelines, enhancing the quality of care and overall health outcomes in the public health facilities of Kinondoni Municipal.

6.3 Recommendations

The study recommends the following to improve prescriber's adherence to malaria diagnosis and treatment guidelines and associated factors in public health facilities of Kinondoni Municipal in Dar es Salaam

1. For Health Administrators:

- Enhance training and supervision for prescribers by implementing regular, comprehensive training programs focused on malaria diagnosis, treatment guidelines, and effective

communication strategies. This will support prescribers in managing patient expectations and reinforce adherence to established protocols.

2. For Policy Makers:

- Strengthen operational support by ensuring adequate staffing levels across all public health facilities. Implement policies that promote manageable workloads, allowing prescribers to adhere effectively to malaria treatment guidelines without the pressure of high patient volumes.

3. For Researchers:

- Conduct further research to explore factors influencing adherence to malaria guidelines. Future studies should utilize randomized sampling techniques for broader representation, longitudinal designs to track adherence trends over time, and qualitative methods to investigate prescriber-patient communication dynamics and the impact of patients' previous experiences with malaria treatment.

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APPENDIX

Appendix I: Data Tools

SECTION A: OBSERVATION CHECKLIST

CODE	QUESTIONS	RESPONSE
01	National guideline for malaria diagnosis an Treatment available	i.Yes ii.No
02.	Oxygen Concentrator available	i.Yes ii.No
03.	Blood transfusion services available	i.Yes ii.No
04.	Monitor vital sign machine available	i.Yes ii.No
05.	Medical laboratory for Diagnosis	i.Yes ii.No
06.	Which Malaria Diagnosis perform	
	Blood smear for malaria parasites	i.Yes ii.No
	Blood glucose	i.Yes ii.No
	Lumbar puncture for CSF examination	i.Yes ii.No
	Full blood picture	i.Yes ii.No
	MRDT	i.Yes ii.No
	Hemoglobin Level	i.Yes ii.No
07. 08	Malaria Dosage available Which malaria Dosage available	i.Yes ii.No
	Artemether lumefantrine tablets	i.Yes ii.No
	Sulfadoxine Pyrimethamine (SP)	i.Yes ii.No
	Artesunate Amodiaquine (ASAQ) an Dihydroartemisinic	i.Yes ii.No

	Analgesics / antipyretics Paracetamo tablets/Syrup and Asprin	i.Yes ii.No
	Anticonvulsant medicine; Diazepam an Phenobarbitone (Injectable/Tablets)	i.Yes ii.No i.Yes ii.No
	Correction of hypoglycaemia; suga solution,Dextrose 10% solution	i.Yes ii.No
	Oral rehydration salt	i.Yes ii.No
	Rectal Artesunate	i.Yes ii.No
09.	Malaria service and data quality improvemer framework available	i.Yes ii.No
10.	Integrated management of childhood illnes algorithm for chilled with fever available	i.Yes ii.No
11.	Adverse medicine reaction reporting forı available	i.Yes ii.No
12.	Malaria report recorded as Surveillance	i.Yes ii.No
13.	Malaria Diagnosis and Treatment Guidelin supervision.	i.Yes ii.No
	Internal Supervision	i.Yes ii.No
	External Supervision	i.Yes ii.No

SEHEMU A: ORODHA YA UTANGULIZI KIUCHUNGUZI

KANUNI	MASWALI	MAJIBU
01	Mwongozo wa kitaifa wa utambuzi n Matibabu ya malaria unapatikana	i.Ndiyo ii.Hapana
02.	Kikolezo cha oksijeni kinapatikana	i.Ndiyo ii.Hapana
03.	Huduma za uongezaji damu zinapatikana	i.Ndiyo ii.Hapana
04.	Mashine ya kufuatilia alama muhim inapatikana	i.Ndiyo ii.Hapana
05.	Maabara ya matibabu kwa Utambuzi	i.Ndiyo ii.Hapana
06.	Ambayo Utambuzi wa Malaria hufanya	
	Kupima damu kwa vimelea vya malaria	i.Ndiyo ii.Hapana
	Glucose ya damu	i.Ndiyo ii.Hapana
	Kuchomwa kwa lumbar kwa uchunguzi w CSF	i.Ndiyo ii.Hapana
	Picha kamili ya damu	i.Ndiyo ii.Hapana
	MRDT	i.Ndiyo ii.Hapana
	Kiwango cha Hemoglobini	i.Ndiyo ii.Hapana
07. 08	Kipimo cha Malaria kinapatikana Je, ni kipimo gani cha malaria kinapatikana	i.Ndiyo ii.Hapana
	Vidonge vya Artemether lumefantrine	i.Ndiyo ii.Hapana
	Sulfadoxine Pyrimethamine (SP)	i.Ndiyo ii.Hapana
	Artesunate Amodiaquine (ASAQ) n Dihydroartemisinic	i.Ndiyo ii.Hapana
	Analgesics / antipyretics Vidonge vy Paracetamol / Syrup na Asprin	i.Ndiyo ii.Hapana

	Dawa ya anticonvulsant; Diazepam n Phenobarbitone (Sindano/Vidonge)	i.Ndiyo ii.Hapana i.Ndiyo ii.Hapana
	Marekebisho ya hypoglycemia ; Suluhisho l sukari , Dextrose 10% suluhisho	i.Ndiyo ii.Hapana
	Chumvi ya kurejesha maji mwilini kwa mdom	i.Ndiyo ii.Hapana
	Artesunate ya Rectal	i.Ndiyo ii.Hapana
09.	Huduma ya malaria na mfumo wa kuboresh ubora wa data unapatikana	i.Ndiyo ii.Hapana
10.	Usimamizi jumuishi wa kanuni za ugonjwa w utotoni kwa baridi na homa zinapatikana	i.Ndiyo ii.Hapana
11.	Ripoti ya majibu ya dawa mbaya inapatikana	i.Ndiyo ii.Hapana
12.	Ripoti ya Malaria iliyorekodiwa kam Ufuatiliaji	i.Ndiyo ii.Hapana
13.	Udhibiti wa Mwongozo wa Utambuzi na Tib ya Malaria.	i.Ndiyo ii.Hapana
	Usimamizi wa Ndani	i.Ndiyo ii.Hapana
	Usimamizi wa Nje	i.Ndiyo ii.Hapana

SECTION B: Social Demographic characteristics

CODE	QUESTIONS	RESPONSE
01.	Date (day/ month/ years)	……
02.	Health Facility Name	Hospital level Health center Dispensary
03.	Department	OPD IPD
04.	Age of respondent	……..
05.	Sex	Male Female
06.	Types of Prescribers (Cadre)	Clinical officer Assistant medical doctor Medical doctor Medical Specialist Others
07.	Years of experience	……
08.	Training on malaria diagnosi and treatment guidelin (Malaria case management)	Yes No

SEHEMU B: Sifa za kijamii na idadi ya watu

KANUNI	MASWALI	MAJIBU
01.	Tarehe (siku / mwezi / miaka	……
02.	Jina la Kituo cha Afya	Kiwango cha hospitali Kituo cha afya Zahanati
03.	Idara	OPD IPD
04.	Umri wa mhojiwa	……..
05.	Jinsia	Mwanaume Mwanamke
06.	Aina za Madaktari (Kada)	Afisa wa kliniki Daktari msaidizi wa matibabu Daktari wa matibabu Mtaalamu wa Matibabu Wengine
07.	Miaka ya uzoefu	……
08.	wa utambuzi na matibabu y ugonjwa wa Malari (Udhibiti wa kesi ya Malaria	Ndiyo Hapana

SECTION C: Level of adherence among prescribers

CODE	QUESTIONS	RESPONSE
01	Do you use with the current malaria diagnos and treatment guidelines?	Yes Often Yes rarely Yes sometime No
02	Are you trained on malaria diagnosis an treatment guideline	Yes No
03	Which one prefer malaria test metho making malaria diagnosis,	
04	Microscopic examination of blood smears	Yes No
05	Rapid diagnostic tests (RDTs)	Yes No
06	Clinical diagnosis based on symptoms an sign	Yes No
07	Why do you prefer test method	Accuracy Validity Reliable Specific and sensitivity
08	all patient should prescribe ALU f uncomplicated malaria treatment	Always Sometimes No all
09	All patients should prescribe Artesunat Injection for severe malaria treatment	Yes always Yes Sometimes Not all
10	I prescribe ant malaria all positive	Always Sometimes Not all all
11	Blood smear (BS) should be order for Mr positive patient	Always Sometimes Not all
12	HIV patient on zidovudine or efaviren prescriber avoid amodiaquine containing AC regimens	Always Sometimes Not all

SEHEMU C: Kiwango cha ufuasi kati ya waagizaji

KANUNI	MASWALI	MAJIBU
01	Je, unatumia na miongozo ya sasa y utambuzi na matibabu ya malaria?	Ndiyo Mara nyingi Ndiyo mara chache Ndiyo wakati fulani Hapana
02	Je, umefunzwa kuhusu utambuzi n mwongozo wa matibabu ya malaria?	Ndiyo Hapana
03	Ni nani anayependelea njia za uchunguzi w malaria katika utambuzi wa malaria,	
04	Uchunguzi wa microscopic wa smears y damu	Ndiyo Hapana
05	Vipimo vya haraka vya uchunguzi (RDTs)	Ndiyo Hapana
06	Utambuzi wa kliniki kulingana na dalili n ishara	Ndiyo Hapana
07	Kwa nini unapendelea njia ya mtihani	Usahihi Uhalali Kutegemewa Maalum na unyeti
08	wagonjwa wote waagize ALU kwa matibab magumu ya malaria	Kila mara Mara nyingine Hapana wote
09	Wagonjwa wote wanapaswa kuagiza sindan ya Artesunate kwa matibabu makali y malaria	Ndiyo daima Ndiyo Wakati mwingine Sio vyote
10	Ninaagiza malaria ya ant all positive	Kila mara Mara nyingine Si wote
11	Uchunguzi wa damu (BS) unapaswa kuw agizo kwa mgonjwa aliye na Mrdt	Kila mara Mara nyingine Sio vyote
12	Mgonjwa wa VVU anayetumia dawa y zidovudine au efavirenz epuka amodiaquin iliyo na dawa za ACT	Kila mara Mara nyingine Sio vyote

SECTION D: Operational factors affecting the adherence.

CODE	QUESTIONS	RESPONSE
01	Is the updated malaria diagnosis and treatmer guideline always available in this facility	Yes always Yes Sometimes Not at all
02	How often are diagnostic tools and medication available for malaria diagnosis and treatment?	Yes always Yes Sometimes Not at all
03	How would you describe the workload and staffing level in relation to malaria diagnosis and treatment?	Yes always sufficient Yes Sometimes sufficient Not all sufficient
04	Is there adequate supervision and monitoring of malaria diagnosis and treatment practices?	Yes always Yes Sometimes Not at all
05	How would you rate the health facility infrastructure i supporting malaria diagnosis and treatment?	Yes always sufficient Yes Sometimes sufficient Not all sufficient
06	How would you rate the training and knowledge of prescribers regarding malaria diagnosis and treatment guidelines?	Yes always Yes Sometimes Not at all
07	How effective is the supply chain management in ensuring consistent availability of malaria diagnosis and treatment supplies?	Not at all effective Yes, always effective Yes, sometimes effective

APPENDICES IN SWAHILI

SEHEMU YA D: Mambo ya kiutendaji yanayoathiri ufuasi .

KANUNI	MASWALI	MAJIBU
01	Je, mwongozo mpya wa uchunguzi na matibabu ya malaria unapatikana kila wakati katika kituo hiki?	Ndiyo, kila wakati Ndiyo, wakati mwingine Hapana kabisa
02	Je, vifaa vya uchunguzi na dawa za matibabu ya malaria zinapatikana mara ngapi?	Ndiyo, kila wakati Ndiyo, wakati mwingine Hapana kabisa
03	Ungeelezeaje mzigo wa kazi na kiwango cha wafanyakazi kuhusiana na uchunguzi na matibabu ya malaria?	Ndiyo, kila wakati kinatosha Ndiyo, wakati mwingine kinatosha Hapana kabisa kinatosha
04	Je, kuna usimamizi na ufuatiliaji wa kutosha wa mazoea ya uchunguzi na matibabu ya malaria?	Ndiyo, kila wakati Ndiyo, wakati mwingine Hapana kabisa
05	Ungeelezeaje miundombinu ya kituo cha afya katika kusaidia uchunguzi na matibabu ya malaria?	Ndiyo, kila wakati inatosha Ndiyo, wakati mwingine inatosha Hapana kabisa inatosha
06	Ungeelezeaje mafunzo na ujuzi wa watoa dawa kuhusu mwongozo wa uchunguzi na matibabu ya malaria?	Ndiyo, kila wakati Ndiyo, wakati mwingine Hapana kabisa
07	Je, usimamizi wa mnyororo wa ugavi unafanikiwa vipi katika kuhakikisha upatikanaji wa vifaa vya uchunguzi na matibabu ya malaria?	Hapana kabisa unafanikiwa Ndiyo, kila wakati unafanikiwa Ndiyo, wakati mwingine unafanikiwa

SECTION E: patients, influence on prescribers on the implementation

CODE	QUESTIONS	RESPONSE
01	How often do patients demand a malari diagnosis regardless of symptoms?	Yes always Yes Sometimes Not all
02	How often do patients demand malari treatment even without a confirme diagnosis?	Yes always Yes Sometimes Not all
03	Do patients demand certain types of malari medicine for treatment	Yes always Yes Sometimes Not all
04	Which types of medicine patient demand	Artemether lumefantrin tablets Sulfadoxine Pyrimethamin (SP) Artesunate Amodiaquin (ASAQ) an Dihydroartemisinic Rectal Artesunate Artesunate Injection
05	Do adult patient demand malaria medicin even malaria test result positive	Yes always Yes Sometimes Not all
06	Do adult patient demand malaria medicin even malaria test result negative	Yes always Yes Sometimes Not all
07	Do patients complain adverse anti malari reaction after malaria treatment	Yes always Yes Sometimes Not all

SEHEMU E: wagonjwa, ushawishi kwa maagizo juu ya utekelezaji

KANUNI	MASWALI	MAJIBU
01	Je, wagonjwa huomba uchunguzi wa malari mara ngapi bila kujali dalili?	Ndiyo, kila wakati Ndiyo, wakati mwingine Hapana kabisa
02	Je, wagonjwa huomba matibabu ya malari mara ngapi hata bila uchunguzi w kuthibitisha?	Ndiyo, kila wakati Ndiyo, wakati mwingine Hapana kabisa
03	Fanya mahitaji ya mgonjwa kupima malaria	Ndiyo daima Ndiyo Wakati mwingine Sio vyote
04	Njia ipi ya kupima malaria anapendele mgonjwa	Mrt Hadubini Mrdt na darubini Sio vyote
05	Je, wagonjwa wanadai aina fulani za dawa z malaria kwa ajili ya matibabu	Ndiyo daima Ndiyo Wakati mwingine Sio vyote

06	Ni aina gani za dawa zinazohitajika kw mgonjwa	Vidonge vya Artemethe lumefantrine Sulfadoxine Pyrimethamin (SP) Artesunate Amodiaquin (ASAQ) n Dihydroartemisinic Artesunate ya Rectal Sindano ya Artesunate
07	Je, mgonjwa mzima anadai dawa ya malari hata matokeo ya vipimo vya malaria n positive	Ndio daima Ndiyo Wakati mwingine Sio vyote
	Je, mgonjwa mzima anadai dawa ya malari hata matokeo ya vipimo vya malaria kuw hana Je, wagonjwa wanalalamika athari mbaya y kupambana na malaria baada ya matibabu y malaria	Ndio daima Ndiyo Wakati mwingine Sio vyote Ndiyo daima Ndiyo Wakati mwingine Sio vyote

Appendix II: Informed Consent Form - English

Research Title: **assessing prescribers adhere to malaria diagnosis and treatment guidelines and associated factors in public health facilities within Kinondoni municipal Dar es Salaam.**

Participant Information:

- Full Name: _____

- Date of Birth: _____

- Gender: _____

- Occupation: _____

- Contact Information: _____

Introduction:

I am Twalib Haroub, a researcher from MUHAS, I would like to invite you to participate in a research study. The purpose of this study is to **assessing prescribers adhere to malaria diagnosis and treatment guidelines and associated factors in public health facilities within Kinondoni municipal Dar es salaam.** Your participation is voluntary, and this form is designed to provide you with information about the study so that you can make an informed decision about participating.

Study Procedures:

Should you consent to take part, you will be required to:

- Participate in the observing process.

- Share your experiences, opinions and methods for diagnosing and treating malaria.

- Your participation will help us better understand the challenges and successes in adhering to malaria guidelines in healthcare facilities.

Risks and Benefits:

There aren't any known dangers related to taking part in this research. However, the information you provide will improve malaria diagnosis and treatment practices, which may benefit patients in the future.

Confidentiality:

Your responses and personal information will be kept confidential. Your name will not be disclosed, and all data will be anonymized.

Voluntary Participation:

Participation in this study is voluntary. You can choose not to participate or can withdraw at any time without penalty.

Contact Information:

If you have any questions or concerns about the study, you may contact the principal investigator, Mr.Twalib Haroub, at +255712555510, twalibharuob@gmail.com

Consent:

I have read and understood the information provided above, and I agree to participate in the study. I understand that my participation is voluntary and that I can withdraw at any time.

Participant's Signature: _____ Date: _____

Kiambatanisho III: Fomu ya Kupata Ridhaa - Kiswahili

Jina la Utafiti: kutathimini waagizaji wa dawa kufuata mwongozo wa utambuzi na matibabu ya malaria na sababu zinazohusiana katika vituo vya afya vya umma ndani ya manispaa ya Kinondoni Dar es salaam.

Taarifa za Mshiriki:

- Jina Kamili: _____

- Tarehe ya Kuzaliwa: _____

- Jinsia: _____

- Kazi: _____

- Taarifa za Mawasiliano: _____

Utangulizi:

Mimi ni **Twalib Haroub** mtafiti kutoka Chuo kikuu cha Sayansi Shirikishi na Tiba Muhimbili (MUHAS) na napenda kukualika kushiriki katika utafiti. Lengo la utafiti huu ni kutathimini waagizaji wa dawa kufuata mwongozo wa utambuzi na matibabu ya malaria na sababu zinazohusiana katika vituo vya afya vya umma ndani ya manispaa ya Kinondoni Dar es salaam.

Taratibu za Utafiti:

Ikiwa utakubali kushiriki, utahitajika:

- Kuchukua sehemu uchunguzi.

- Kutoa maoni yako, maoni, na mazoea yako kuhusiana na uchunguzi na matibabu ya malaria.

- Ushiriki wako utatusaidia kuelewa vizuri changamoto na mafanikio katika kufuata miongozo ya malaria katika vituo vya afya.

Hatari na Faida:

Hakuna hatari zinazotarajiwa kuhusiana na ushiriki katika utafiti huu. Hata hivyo, taarifa utakazotoa zitasaidia kuboresha mazoea ya uchunguzi na matibabu ya malaria, na hivyo kuweza kufaidisha wagonjwa wa baadaye.

Usiri:

Majibu yako na taarifa binafsi zitabaki kuwa siri. Jina lako halitafichuliwa, na data zote zitahifadhiwa kwa siri.

Ushiriki wa Hiari:

Ushiriki katika utafiti huu ni wa hiari. Unaweza kuchagua kutoshiriki au unaweza kujiondoa wakati wowote bila adhabu yoyote.

Taarifa za Mawasiliano:

Ikiwa una maswali au wasiwasi kuhusu utafiti, unaweza kuwasiliana na mpelelezi mkuu, Twalib Haroub kwa +255712555510, twalibharuob@gmail.com

Ridhaa:

Nimeisoma na kuielewa taarifa iliyotolewa hapo juu, na ninaidhinisha kushiriki katika utafiti huu. Ninaelewa kuwa ushiriki wangu ni wa hiari na naweza kujiondoa wakati wowote.

Sahihi ya Mshiriki: _____ Tarehe: _____

Appendix IV: Ethical clearance

UNITED REPUBLIC OF TANZANIA

MINISTRY OF EDUCATION, SCIENCE AND TECHNOLOGY

MUHIMBILI UNIVERSITY OF HEALTH AND ALLIED SCIENCES

OFFICE OF THE DIRECTOR – RESEARCH, PUBLICATIONS AND INNOVATION

Ref. No.DA.282/298/01.C/2134 Date: 29/04/2024

MUHAS-REC-04-2024-2097
TWALIB HAROUB

MUHAS

RE: APPROVAL FOR ETHICAL CLEARANCE FOR A STUDY TITLED: ASSESSING PRESCRIBERS' ADHERENCE TO MALARIA DIAGNOSIS AND TREATMENT GUIDELINE AND ASSOCIATED FACTORS IN PUBLIC HEALTH FACILITIES OF KINONDONI MUNICIPAL IN DAR ES SALAAM.

Reference is made to the above heading,

I am pleased to inform you that the Chairman 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 subject's research.

APPROVAL DATE: 29/04/2024
EXPIRATION DATE OF APPROVAL: 29/04/2025

STUDY DESCRIPTION:
Purpose:

The purpose if this cross-sectional study is to assess the prescribers' adherence to Malaria diagnosis and treatment guideline and associated factors in public health facilities of Kinondoni municipal in Dar es salaam.

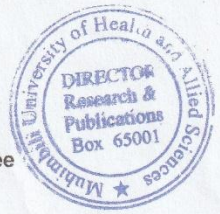
The approved protocol and procedures for this study is attached and stamped with this letter, and can be found in the link provided: https://irb.muhas.ac.tz/storage/Certificates/Certificate%20-%2015216.pdf and in the MUHAS archives.

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. 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)
9. The PI is required to ensure that the findings of the study are disseminated to relevant stake holders.
10. 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/.

Dr. Nahya S. Masoud

For Chairperson, MUHAS Research and Ethics Committee



Appendix V: Introduction Letter

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.603/2022

3rd May, 2024

Reginal Administrative Secretary,
P.O. Box 5429,
DAR ES SALAAM

RE: INTRODUCTION LETTER OF TWALIB HAROUB

We would like to inform you that the carrier of this letter is Twalib Haroub with registration number HD/MUH/T.603/2022 a student at Muhimbili University of Health and Allied Science (MUHAS), pursuing MSc. Project Managment Monitoring and evaluation in Health.

As part of his studies, he will be doing an elective research titled **"ASSESSING PRESCRIBERS'ADHERENCE TO MALARIA DIAGNOSIS AND TREATMENT GUIDELINE AND ASSOCIATED FACTORS IN PUBLIC HEALTH FACILITIES OF KINONDONI MUNICIPAL IN DAR ES SALAAM".** he is being supervised by Prof.phares Mujinja and Elia Nyangi from MUHAS School of public health.

The Ethical Clearance for doing the said research has been given by the University.

Kindly request your assistance and cooperation to our student.

Yours Sincerely,

Mr. Sebe Mohamed
For: DIRECTOR, POSTGRADUATE STUDIES

Cc: Twalib Haroub

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

Appendix VI: Permission letter

JAMHURI YA MUUNGANO WA TANZANIA
Ofisi ya Rais
TAWALA ZA MIKOA NA SERIKALI ZA MITAA

MKOA WA DAR ES SALAAM
Anwani ya Simu:
Simu: 2203156/58
Fa: +25522203213
Tovuti: www.dsm.go.tz
Barua Pepe: ras@dsm.go.tz
Unapojibu Tafadhali taja:

OFISI YA MKUU WA MKOA
3 Barabara ya Rashidi Kawawa,
S. L. P. 5429,
12880 - DAR ES SALAAM.

15 Mei, 2024

Kumb. Na. EA.260/307/01B/146

Mkurugenzi wa Manispaa,
Manispaa ya Kinondoni,
DAR ES SALAAM.

YAH: UTAFITI "Assessing prescribers' adherence to malaria diagnosis and treatment guideline and associated factors in public health facilities of Kinondoni Municipal in Dar es Salaam"

Tafadhali husika na kichwa cha habari hapo juu.

2. Ofisi ya Mkuu wa Mkoa Dar es Salaam inautambulisha utafiti tajwa hapo juu ambao umeombewa kibali kutoka Chuo Kikuu cha Tiba na Sayansi Shirikishi Muhimbili (MUHAS Kumb.na: HD/MUH/T.603 /2022). Utafiti unafanywa na Mwanachuo Twalibu Haroub wa Shahada ya Uzamili katika Usimamizi wa Miradi, Ufuatiliaji na Tathimini katika Afya kuanzia tarehe 29 Aprili, 2024 hadi 29 Aprili, 2025.

3 Utafiti utafanyika katika Manispaa ya Kinondoni kwenye vituo vinavyo toa huduma ya ya Afya hususan Hospitali, Vituo vya Afya na Zahanati

4. Mtafiti atafanya mahojiano na madaktari wanaofanya kazi katika vituo husika kuhusu uagizaji wa dawa kwa kufuata muongozo wa utambuzi na matibabu ya malaria katika vituo vitakavyo chaguliwa na sababu zinazo husiana kufuata au kutofuata muongozo.

5. Lengo la utafiti ni kukidhi matakwa ya mtaala wa masomo na kutathimini sababu zinazo wafanya madakitari wafuate au wasifuate muongozo wa utambuzi na matibabu ya malaria.

6. Kwa barua hii, Mtafiti **Twalibu Haroub** amepewa kibali cha kufanya utafiti kwa kuwa ndiye aliyepewa dhamana ya kuusimamia.

Nashukuru kwa ushirikiano.

Dkt. Mohamed Mang'una
Kny; KATIBU TAWALA MKOA
DAR ES SALAAM

Nakala: Katibu Tawala Mkoa,
DAR ES SALAAM. – Aione Kwenye Jalada

JAMHURI YA MUUNGANO WA TANZANIA

OFISI YA RAIS,
TAWALA ZA MIKOA NA SERIKALI ZA MITAA

HALMASHAURI YA MANISPAA YA KINONDONI

Unapojibu tafadhali taja:

Kumb. Na. HB.345/520 **Tarehe:** 15 **Mei,** 2024

Mkuu wa Divisheni ya Afya Ustawi wa Jamii na Lishe
Manispaa ya Kinondoni,
S.L.P 31902,
DAR ES SALAAM.

YAH: KIBALI CHA KUFANYA UTAFITI NA KUMTAMBULISHA TWALIB HAROUB

Kichwa cha habari hapo juu chahusika.

2. Ofisi ya Mkurugenzi imepokea barua yenye Kumb.Na. EA.260/307/01B/146 ya tarehe 15 Mei, 2024 kutoka Ofisi ya Katibu Tawala Mkoa ikimtambulisha mtajwa hapo juu kutoka Chuo kikuu cha Tiba na Sayansi Shirikishi Muhimbili (MUHAS) kwa ajili ya kumuombea kibali cha kufanya utafiti.

3. Kwa barua hii **Kibali kimetolewa** na Mwajiri kwa ajili ya kufanya utafiti katika **Divisheni ya Afya Ustawi wa Jamii na Lishe** kuhusu '***Assesing prescribers adherence to Malaria diagnosis and treatment guideline and associated factors in Public Health facilities of Kinondoni'*** kuanzia tarehe 29 Aprili, 2024 29 Aprili, 2025.

4. Tafadhali mpokee na kumpa ushirikiano.

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Maria Masimbusi
Kny: MKURUGENZI WA MANISPAA

Kny: MKURUGENZI WA MANISPAA
MANISPAA YA KINONDONI
DAR-ES-SALAAM

Nakala
Twalib Haroub - kwa taarifa

Barua zote zitumwe kwa Mkurugenzi wa Manispaa Manispaa ya Kinondoni, S.L.P. 31902, 2 Barabara ya Morogoro, 14883 Dar es Salaam, Unaweza pia kuwasiliana nasi kwa Simu: +255 2170173 Nukushi: 2172606, Barua pepe – info@kinondonimc.go.tz