EVALUATING THE PROCESS IMPLEMENTATION FIDELITY OF ORAL PRE-EXPOSURE PROPHYLAXIS (PrEP) FRAMEWORK IN KINONDONI MUNICIPAL COUNCIL, TANZANIA

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By

Beatrice Octavian

A Dissertation Submitted in (Partial) Fulfillment of the Requirements for the Degree of Master Science (Project Management Monitoring and Evaluation in Health) of

Muhimbili University of Health and Allied Science
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CERTIFICATION

The undersigned certify that they have read and hereby recommend for acceptance by Muhimbili University of Health and Allied Sciences a dissertation entitled; **"Evaluating the process implementation fidelity of oral pre-exposure prophylaxis (PrEP) framework in Kinondoni Municipal Council, Tanzania",** in (partial) fulfillment of the requirements for the award of Degree of Master Science (Project Management Monitoring and Evaluation in Health) of Muhimbili University of Health and Allied Sciences.

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Supervisor

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Date

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Date

DECLARATION AND COPYRIGHT

I, **Beatrice Octavian**, declare that this **dissertation** is my own original work and that it has not been presented and it will not be presented for a similar or any other degree award.

Signature …… **Date**……

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DEDICATION

This academic dissertation is dedicated to my beloved family. To my dear husband Desmond Mgongolwa and my children Abigail and Gabriel for making this study possible

ABSTRACT

Background: Effective implementation of Oral Pre-Exposure Prophylaxis (PrEP) has been increasingly proved through clinical trials and PrEP demonstration projects to be highly potential in reducing risk to new HIV infection among key populations. It is on the basis of these achievements that Tanzania started developing Oral PrEP framework in 2018. However, there is limited information on how well the framework is being implemented in Tanzania, and the fidelity of the implementation process of the PrEP framework, is not well understood. It is this gap in knowledge that this study intended to fill.

Objective: To evaluate the process implementation fidelity of the oral pre-exposure prophylaxis framework in Kinondoni Municipal Council, Tanzania.

Methodology: An exploratory cross-sectional study was conducted using qualitative and quantitative data collection methods. Qualitative data were collected by using in-depth interviews among healthcare providers while in quantitative data, a questionnaire was used to collect data among Key Populations. A convenience sampling procedure was considered in selecting KPs using PrEP services. A purposive sampling procedure facilitated the selection of healthcare workers. The sample size of 10 key informants were used in qualitative data, while in quantitative data collection, a sample size of 135 participants was involved. Descriptive statistics using SPSS was used in analyzing quantitative data while and thematic approach was used to analyze qualitative data.

Results: The study found that the process of PrEP delivery in Kinondoni Municipal Council comprises the identification of eligible PrEP candidates, PrEP initiation, adherence monitoring, and continuation and discontinuation of PrEP among KPs. PrEP use as a method of preventing HIV was significantly associated with willingness to accept and take a pill every day among KPs. Moreover, the study found barriers facing the implementation fidelity of the oral PrEP, including low awareness among community members, misconception and stigmatization, and non-compliance among PrEP users.

Conclusion and recommendation: The study confirms that Kinondoni Municipal Council PREP service is largely delivered per the National oral Pre-exposure prophylaxis implementation framework stipulated under the guideline effect. Among other things, it is recommended that all health facilities providing PrEP should integrate community and facility-based PrEP services.

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ABBREVIATIONS AND ACRONYMS

AIDS	Acquired Immune Deficiency Syndrome
AGYW	Adolescent Girls young women
ART	Anti-retroviral treatment
CDC	Centers for Disease Control and Prevention
CFW	Conceptual framework
CCC	Comprehensive care clinics for HIV treatments
DICE	Drop-in Centers (DICE)
FSW	Female Sex Worker
HBV	Hepatitis B virus
KMC	Kinondoni Municipal Council
MSM	Men Sex with Men
KMC	Kinondoni Municipal council
KPs	Key Populations
KVPs	Key and vulnerable populations
MUHAS	Muhimbili University of Health and Allied Science
NACP	National AIDS Control Program
PrEP	Pre-Exposure prophylaxis.
PWID	People who inject drugs.
HIV	Human immune deficiency virus
WHO	World Health Organization
STD	Sexually Transmitted Disease
SSA	Sub-Saharan Africa
SPSS	Statistical Package for the Social Sciences
TDF	Tenofovir Disoproxil Fumarate

DEFINITION OF TERMS

Pre-Exposure Prophylaxis (PrEP): Antiretroviral (ARV) medications by people who do not already have HIV infection to prevent the acquisition of HIV.

Oral Pre-Exposure Prophylaxis (PrEP): Antiretroviral (ARV) medications taken orally by people who do not already have HIV infection to prevent the acquisition of HIV.

Key populations (KPs) in PrEP for HIV exposure: A person who has not yet acquired HIV infection but who is at high risk of exposure to HIV infection through either sexual practice or injection drug use. Will be consistently grouped as Female Sexual Workers (FSW), Men who Sex with other Men (MSM), Adolescent Girls and Young Women (AGYW), and people who inject drugs (PWID).

PrEP acceptability: Personal approval, willingness to PrEP utilization, PrEP users' commitment, and interest.

PrEP adherence: Consistent PrEP use, completing PrEP dose, refill frequency, and duration.

Implementation Fidelity refers to how the process of an intervention or program is implemented as intended or specified by its developers. It measures how closely the intervention is delivered as originally planned and is critical for ensuring its effectiveness and success.

CHAPTER ONE

INTRODUCTION

1.1 Background information

1.1.1 Contextual information on Oral Pre-Exposure Prophylaxis (PrEP)

Oral Pre-Exposure Prophylaxis (PrEP) is a recent global recommended intervention towards reducing new infection among key and vulnerable population (KPs) groups and general population at large. PrEP is the biomedical prevention method in a form of medication for the people with negative HIV status to prevent risk of contracting HIV disease (1,2). Its use was first recommended and approved by the World Health Organization in 2015 being piloted in several countries and then it was recommended for global scale up in 2017 by the World Health Organization (WHO)(3).

It is available in single pill trademarked "Truvada", a combination of two drugs "Tenofovir disoproxil fumarate "(TDF) and emtricitabine as part of comprehensive HIV prevention methods among the key and vulnerable populations, which includes Female Sex Workers (FSW), Men Sex with Men (MSM), Adolescent Girls and Young Women (AGYW), HIV discordant couples and pregnant women (WHO,2022). There are about 83 countries globally that implement HIV Pre-Exposure Prophylaxis (PrEP) which has reached about 940,000 individuals who at least once used this drug for HIV prevention, and 52% of these users reported from Africa continent (3).

WHO developed a global HIV PrEP implementation framework, to guide individual countries on steps and procedures towards intervention implementation with a key emphasis on avoiding replacement of existing HIV prevention methods which includes condom programming, behavioral communication changes, use of ART, and voluntary medical male circumcision (2022). This is because there is a general concern that PrEP availability might decrease condom use, which could consequently offset the intended benefit of this therapy in preventing HIV infection, and ultimately this could even lead to an increase in the number of new HIV infections (4). PrEP use may be challenging to AGYW, given their need for social support and challenges with disclosure. Evidence on this challenge has consistently been reported among key PrEP candidates across a number of studies (5). Expanded

contemporary evidence validate further that across many countries, there remain substantial social, economic, and structural barriers to access to preexposure prophylaxis (PrEP) that prevent a universal, population-level (6).

In 2020, 130 countries worldwide reported that they had included and implement the WHO oral PrEP recommendations in national guidelines (7). To scale up the implementation of PrEP. In Sub-Saharan Africa (SSA) as of December 2020, eighteen (18) countries had developed national PrEP policies to guide the implementation. Only 3 countries had a PrEP service delivery model or implementation framework. Kenya was among the earliest countries in Sub-Saharan Africa (SSA) and East-African countries to have a national PrEP implementation framework(7).

Another key palpable challenge to effective PrEP implementation is the demographic and geographical variability in PrEP uptakes and adherence (8). There is also enough evidence to applaud that monitoring PrEP uptakes and adherence remains big challenge across many countries (9). Likewise, the acceptability of the intervention by both potential target users and providers has been cited as a critical implementation issue which need more attention. Some providers may be unfamiliar with prescribing PrEP or hold biases against the community, resulting in inadequate information or even refusal to prescribe the medication (10). This lack of awareness and stigma can make it harder for individuals to seek and receive the care they need. A gap analysis across existing empirical evidence shows that both uptake of oral pre-exposure prophylaxis (PrEP) and continuity on PrEP had far remained below the national targets. A root cause analysis investigated why clients may not be willing to start PrEP and revealed that clients had concerns about taking PrEP daily and its side effects. Moreover, its (11) noted that PrEP users may hold negative perceptions about PrEP, lack enough information, had a low perceived HIV risk, and feel stigma associated with PrEP. Ideally, these implementation challenges dictate the fidelity to PrEP implementation process and may result to pervasive gaps in process delivery and the intended outcomes.

In 2021 Tanzania adopted, contextualized, developed, and officially released an in-country implementation framework as an effort to respond to the WHO call to scale up comprehensive HIV prevention methods including the recent novel approaches such as HIV

PrEP among the key and vulnerable populations. Different studies in Tanzania have shown demands for HIV PrEP among the key populations during pilot and demonstration studies.

In response to WHO recommendation, Tanzania developed PrEP implementation protocols and conducted several demonstrated projects among Adolescent Girls and Young Women (AGYW), Female sex workers (FSW), Men who have Sex with Men (MSM), and people who inject drugs (PWID) for two regions of Dar es Salaam and Mbeya. Findings reveal a high demand for PrEP among the Key and vulnerable populations (KVPs) which calls for immediate expansion of the interventions (12). Pre-exposure prophylaxis (PrEP) is one of the most promising, currently available HIV prevention interventions for KPs as it solves some structural barriers including stigma and condom-negotiation skills. Effective Oral Pre-Exposure Prophylaxis (PrEP) has been proven to reduce new HIV infections by up to 90% (2).

1.1.2 Description of National oral PrEP implementation framework

The national Pre-exposure prophylaxis (PrEP) implementation framework was developed by the Ministry of Health (MOH) under the coordination of the National Acquired Immune Deficiency Syndrome (AIDS) Control Program (NACP, 2021) it was introduced as an intervention based on the complexity of the PrEP program and the population it serves. Its Initial preparations began in 2017 and were followed by a kickoff demonstration project in May 2018. The demonstration project created a base for the program to learn and identify issues that will be used when PrEP is being scaled up throughout the nation(13).

The demonstration project used the existing infrastructure of HIV preventive services to integrate and layer PrEP as an additional component. This was specifically done to ensure that the local context is adequately reflected (13). During the initial preparation, the PrEP training package and standard operating procedures for healthcare providers were developed, the PrEP service delivery model was defined, Monitoring and Evaluation (M&E) reporting and recording tools and electronic database were developed and 252 health providers from selected health facilities were trained.

Experience and lessons learned from pilot and demonstration projects created the demand for this framework and officially in 2021, the National Pre-exposure Prophylaxis (PrEP) implementation framework was released to provide implementation guidance in providing

PrEP services to specific sub-populations with substantial ongoing HIV risk, to ensure quality and safe PrEP services (13). The National Pre-exposure prophylaxis (PrEP) implementation framework focus areas for the implementation include PrEP service delivery, stakeholder and community engagement, capacity building of service providers, guide on supplies needed for effective implementation of PrEP, and monitoring delivery. It has five specific objectives. The national

However, this study mainly concentrated on the first three specific objectives which principally encompass the fidelity to PrEP framework implementation process.

1.2 Statement of problem

Tanzania and other developing countries in Sub-Saharan Africa continue to face high Human Immunodeficiency Virus (HIV) infection prevalence. The prevalence of HIV among KPs remains substantially higher than its relative prevalence in the general population (WHO, 2021). HIV prevalence has been disproportionately higher in urban than in rural areas and varies across KPS groups (CDC, 2022)(1). Recent epidemiological reports show that in Tanzania Female Sexual Workers (FSW) present a key vulnerable group with the highest prevalence of 15.3 %, higher than HIV prevalence rates of 8.3 % among Men who have Sex with other Men (MSM) and 8.7 % among people who inject drugs (PWID).

Effective implementation of Oral Pre-Exposure Prophylaxis (PrEP) has been increasingly proved through clinical trials and PrEP demonstration projects to have a high potential to reduce the risk of new HIV infection among KPs (2)(14). It is based on these achievements that Tanzania started developing the Oral Pre-Exposure Prophylaxis (PrEP) framework in 2018. However, there is limited information on how well the framework is being implemented in Tanzania, and the fidelity of the implementation of the PrEP framework, is not well understood. Studies conducted elsewhere show that PrEP implementation failures are rampant (1) and characterized by unclear implementation fidelity (15–17). However, achieving effective PrEP implementation requires context-specific research evidence which is currently insufficient in Tanzania. Previous studies on the uptake of PrEP were very few and limited in scope. One study in Tanzania has reported stigma as a barrier and bias to the implementation. Consequently, there is a dearth of comprehensive information on the

fidelity of the implementation of the PrEP framework and the factors affecting it. It is this gap in knowledge that this study intended to fill.

1.3 Conceptual framework

The conceptual framework for this study focuses on three important aspects of PrEP implementation in Tanzania. The first aspect is the PrEP implementation/ delivery process which highlights the focus areas on PrEP provision and implementation models (i.e., facility-based, or facility-led). The focus areas highlight the implementation process in six steps. These steps are (1) identifying high-risk potential PrEP candidates, (2) determining eligibility and interest, (3) PrEP initiation, (4) follow-up and monitoring adherence, (5) continuing PrEP, and (6) discontinuing PrEP.

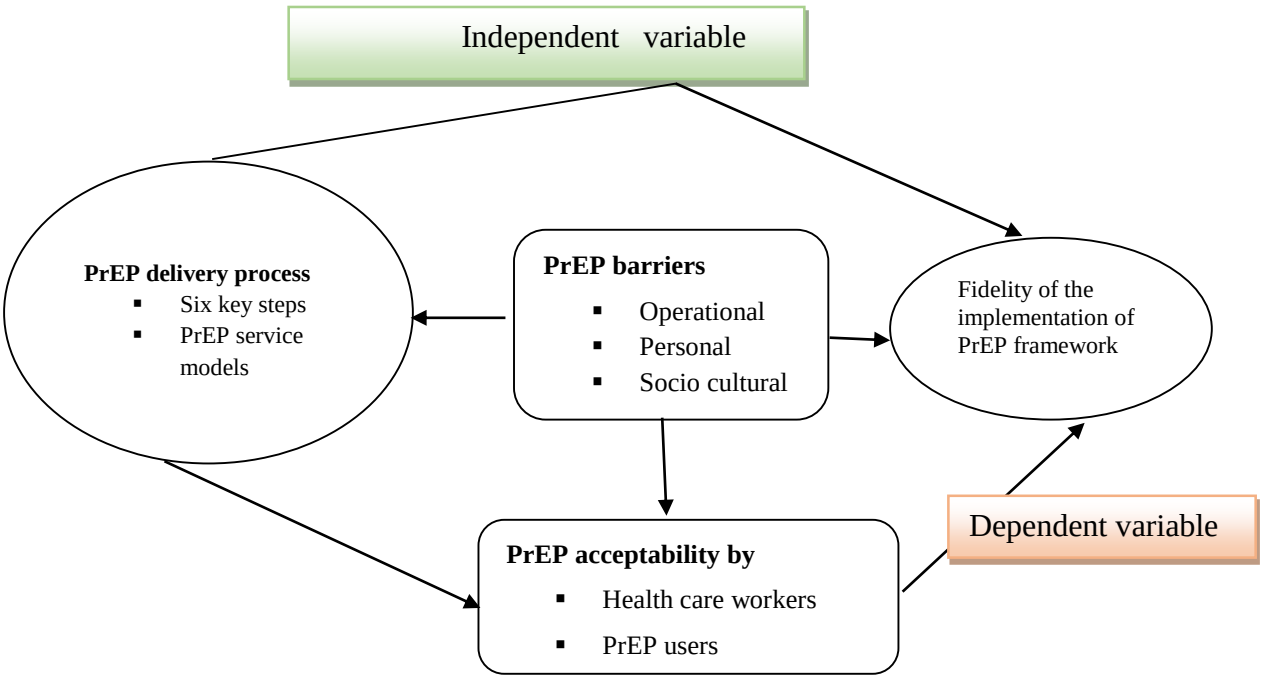


Figure 1: Conceptual framework of the study

The second aspect of PrEP implementation is its acceptability by users and healthcare workers. The third aspect comprises barriers to PrEP implementation fidelity. Such barriers can span to organization/operational factors, health system factors, individual/social demographic factors and technical factors. In the lens of these three constructs, barriers to PrEP implementation influence the PrEP delivery process, and PrEP acceptability, barriers and delivery process are constructs which influence PrEP uptake. Fidelity to PrEP implementation is the outcome variable in this study. The conceptual framework shows that PrEP framework implementation's acceptability is dictates PrEP uptake.

1.4 Rationale of the study

Oral pre–exposure prophylaxis (PrEP) services are HIV prevention effective strategy targeting to reduced risk to HIV infection among KPs and general population at large. It is implemented as a search for sustainable responses to national regional and global commitment to comprehensive prevention, care, and treatment of HIV among key vulnerable peoples. The findings from the study will help inform PrEP implementers and stakeholders on areas needed to focus on to improve the PrEP implementation. Also, suggestions and recommendations that they can apply to implement as they transition to the integration of PrEP service to national Key and vulnerable population guideline.

1.5 Research questions

1.5.1 General research question

What is the process implementation fidelity of the oral PrEP framework in Kinondoni Municipal Council (KMC)?

1.5.2 Specific research questions

1. How are Oral PrEP services delivered in Kinondoni Municipal Council?
2. How oral PrEP implementation acceptability reflects its PrEP uptake in KMC?
3. What are the barriers to Oral PrEP implementation fidelity in KMC?

1.6 Research objective

1.6.1 Broad objective

To evaluate the process implementation fidelity of the PrEP framework in KMC.

1.6.2 Specific objectives

1. To describe the process of Oral PrEP service delivery in KMC.
2. To appraise the oral PrEP implementation's acceptability based on PrEP uptake fidelity in KMC
3. To explore barriers to Oral PrEP implementation fidelity in KMC

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

After introducing the problem felt by researcher and its settings chapter will concentrate on literature review on oral PrEP in HIV. The aim of this chapter is to review important literature on key aspects of the study to make researchers familiar with the issues in question. This chapter also shade light on expounding research gap to be filled by the study as well as shaping researcher reasoning in selection of appropriate research methodology. Moreover, the review helped researchers to engage discussion of finding after data analysis and make it easier to draw informed conclusions and implications. In this line, the chapter was organized as follows.

2.2 Process of Oral PrEP service delivery

Key and vulnerable populations (KPs) in PrEP for HIV exposure is principally a central aspect of PrEP delivery process. It is perhaps the most important aspect in PrEP for HIV exposure implementation guidelines and its designated service delivery cascades. In context of PrEP for HIV exposure key and vulnerable populations (KPs) was proposed and declared by the World health organization to describe eligible individuals for taking PrEP drugs. It is specified that KPS is any person who has not yet acquired HIV infection but who is at high risk of exposure to HIV infection through either sexual practice or injection drug uses.

Across existing literature (Njuguna et al, 2020) and in Tanzania PrEP for HIV exposure implementation framework (13)these populations include Female Sexual Workers (FSW), Men who Sex with other Men (MSM), Adolescent Girls and Young Women (AGYW), and people who inject drugs (PWID). The world health organization (WHO) PrEP for HIV exposure implementation framework which was proposed as a benchmark framework for domestication at country level emphasizes eligibility for PrEP in HIV exposure rather than listing these KPs as groups. The proposed eligibility criteria are clearly stated as.

"*Specifically, PrEP should be considered for people who are HIV negative and who have had anal or vaginal sex in the past 6 months and:*

(i) Have a sexual partner with HIV (especially if the partner has an unknown or detectable viral load), or

(ii) Have not consistently used a condom, or

(iii)Have been diagnosed with a sexually transmitted disease (STD) in the past 6 months". (WHO, 2015, CDC, 2021).

The WHO implementation framework guideline also states that.

"PrEP is also recommended for people without HIV who inject drugs and:

(i) Have an injection partner with HIV, or

(ii) Share needles, syringes, or other equipment to inject drugs". (WHO, 2015, CDC, 2021)

Moreover, the guideline extends the scope of eligibility for PrEP uptake to people on other scientifically approved and accepted prophylaxis. More specifically, it emphasizes that.

"PrEP should also be considered for people without HIV who have been prescribed non-occupational post-exposure prophylaxis (nPEP) and:

(i) Report continued risk behavior, or

(ii) Have used multiple courses of PEP". (WHO, 2015, CDC, 2021)(1)

In context of this study all these criteria were paid much attention to establish how oral PrEP service delivery implementation reflects uptake and adherence to PrEP services among key vulnerable peoples in the study area.

The process of oral PrEP service delivery as proposed by WHO (2018) framework and adopted in the national PrEP service framework in Tanzania comprises several key consecutive steps (WHO, 2018). Each step has several standard procedures / practices. Clinical guidelines on HIV management and PrEP guidelines provide standards criteria and protocol of identifying high risk potential PrEP candidate (1). The tool is also called algorism for potential PrEP candidates. It is recommended that these standard criteria and protocol serve solely as risk prediction tools for recruiting potential PrEP candidates.

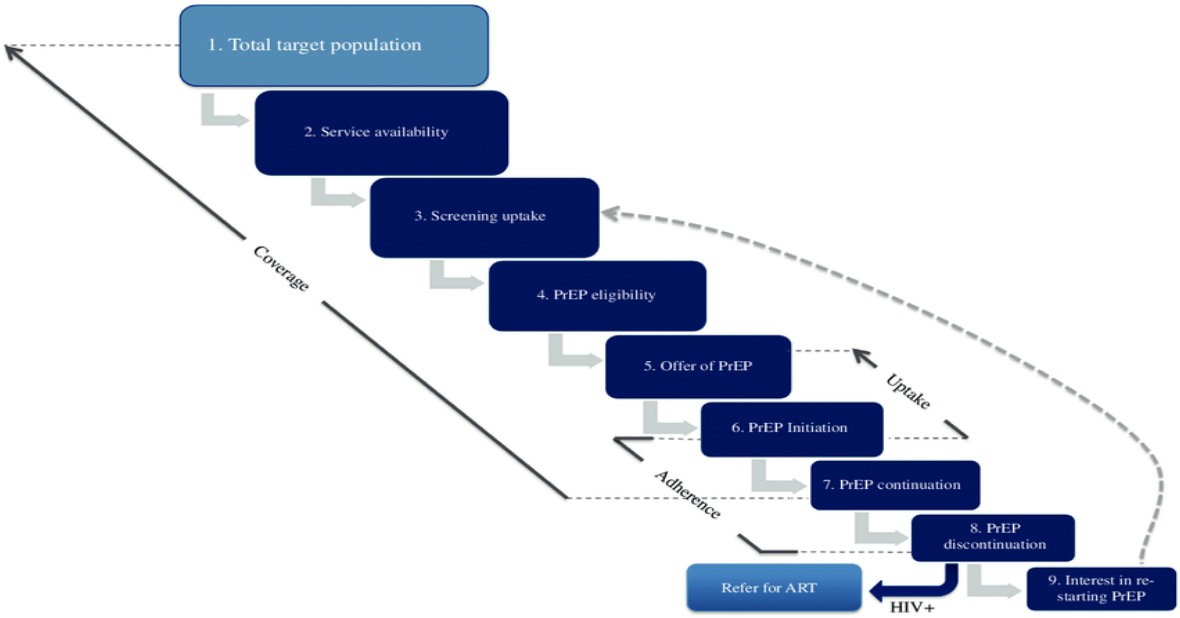


Figure 2: Oral PrEP cascade

Source: Adapted from Dunbar et al (2018) (18)

There is argument that the algorism for identification of potential PrEP candidates has several implications from provider perspectives (Duthe et al, 2021)(10). Gilkey et al (2019) (11)listed these implications to PrEP acceptability, interpretation, and expected impacts which had influence on PrEP framework implementation. Identification of those who are significantly at risk for HIV is a crucial first step in the oral PrEP cascade. According to WHO (2018), a population is at substantial risk for HIV if the prevalence of HIV infection without PrEP is high enough (typically considered to be >3% prevalence) to make providing PrEP potentially cost-effective. Center for Disease Control and prevention (CDC,2021) emphasizes that the benefits in relation to the costs and risks are maximized when PrEP is offered first to those who are at high risk of contracting HIV.

Depending on the national context and program focus, different countries will need to define PrEP eligibility (for step 2). However, following WHO (2015) propositions, before providing an individual with PrEP, there are three requirements that are always necessary. These requirements are (i) HIV-negative status is confirmed, (ii) no acute HIV infection symptoms or signs, (iii) an individual is confirmed to be at significant risk for HIV as defined by the national HIV management guidelines. As a rule of thumb, Wyatt et al (2022) noted that every person who satisfies these initial three requirements must also think about

what taking PrEP requires of them. To realize the later consideration, health care providers are obliged explain the needs for adherence and re-testing. In this connotation, (19)posited that in-depth and clear explanations on the needs for adherence and re-testing are crucial to PrEP's effectiveness before potential users can decide whether they are willing to use it. Harm reduction for drug users and comprehensive condom programming for sex workers and MSM are two HIV prevention strategies that should not be replaced by or put in competition with PrEP. The individual should always decide whether to use PrEP. More importantly there are key elements for PrEP service implementation crucial for consideration at all levels of service. The first implementation element is capacity building which compels training all PrEP service delivery personnel. Healthcare professionals should receive training and assistance so they can offer culturally appropriate PrEP services to people at high risk for HIV, particularly young women, and members of key populations.

Initiating PrEP among those who are qualified and motivated, realizing adherence, as well as effective PrEP uptake at optimal level constitutes the third, fourth and fifth steps of the cascade (13). This element emphasizes that "Prior to starting PrEP and periodically while taking PrEP, HIV testing is required. HIV testing is quality-assured and is important, and referring those who test positive for HIV to services for treatment and prevention is crucial. Ensuring real function and Hepatitis B virus (HBV) infections testing are two other key elements for PrEP service implementation.

In theoretical lens, routine monitoring systems should measure each of these cascade stages. Most frequently, the uptake of PrEP among those who are eligible and offered it is used to measure the start of PrEP (4). In principle, this measurement should distinguish between those who are starting PrEP for the first time and those who are restarting it after a break from taking it. An individual must meet the eligibility requirements once more each time they restart taking PrEP after a break. PrEP uptake is one of the key concepts in the framework PrEP service delivery cascade in all frameworks. Olilo et al (2019) (19)acknowledge that PrEP uptake is a construct which can be operationalized in different ways according to specific context. It is the process of enrolling in an intervention and receiving medication provided by the intervention within a predetermined time frame.

PrEP adherence is another basic element of its service delivery cascades. Though its conceptualization is evolving, effective protection through PrEP is cited to be highly predicted by PrEP adherence(20). There is a universal definition of PrEP adherence, it is defined under consideration of HIV exposure which varies by sexual behavior and other prevention strategies available. The scope of PrEP adherence go beyond clinical trial and prevention effectiveness is highly explained by PrEP adherence beyond adherence established for clinical trial. Informing people that PrEP is safe and highly effective when taken, with the vast majority of users experiencing no side effects, is one way to increase PrEP adherence beyond clinical trials. Support groups, including those on social media, may aid adherence by allowing users of PrEP to discuss their struggles and experiences. This study was interested to explore how PrEP adherence monitoring as proposed under the Oral PrEP service delivery protocol implementation is reflected in its adherence among service users.

PrEP adherence and continuation can be assessed in various ways, such as through self-reporting or pill counting. Monitoring tools could record whether PrEP use was consistent (adherent), irregular (non-adherent), or daily. Ideally, this data is useful for clinical monitoring and enhancing program quality. Consequently, all these processes and standard practices are key issues to consider while evaluating the fidelity to PrEP framework implementation.

Mayanja et al (2022)(17) were interested in examining PrEP focusing on preferences, uptake, adherence and continuation among adolescent girl and young woman from Kampala Uganda. They used a quantitative prospective cohort study and variable of analysis were preferences, uptake, adherence, and continuation among intervention users. In their observation preference was low (47.6%), uptake was low 30.6%) though willingness to uptake was high (90.2%), PrEP uptake was associated with engaging in partner sexual practices which is risky sexual behavior. However, the major weakness was lack of reflection on how implementation fidelity on preference, uptake, adherence and continuation and the study lacked PrEP user's real context views since it was quantitative. Moreover, the study was less generalizable compared to other KPs as it used only a single KPS.

Using United States PrEP implementation framework and perspective, Wang et al (2022)(21) in a systematic review of 1363 articles on PrEP acceptability and PrEP adherence among male who had have sex with males (MSM) provide more evidence on PrEP. Individual based evidence analysis was performed. Where PrEP service delivery framework conforms with fidelity aspects and incorporates large level of personal based sociological characteristics uptake and adherence and avoiding PrEP compensating behavior increases MSM in United States communities. This study provided impressive evidence on uptake and adherence on PrEP, however, the evidence was limited to only single KPs and likewise it lacked personal based context-based views.

Another important evidence on PrEP is found in a study (22)which analyzed the distribution of acceptance and PrEP adherence among in South African woman during preconceptions. The study concentrated on uptake and PrEP adherence, factors and drivers for PrEP uptake and adherence using a qualitative research approach using 25 key informants. A highly varied interest and adherence were observed, a range of contextual issues were potentially explanatory to low uptake and adherence. This was among few studies which attempted to consider implementation fidelity influence on PrEP, however, yet the study was limited only to venerable woman and on preconception.

In Uganda Matthews et al (2023) evaluated oral PrEP uptake among HIV exposed rural woman who had a plan for a personal or sexual partner during preconception and during pregnancy through a prospective cohort quantitative study. Woman eligible for PrEP with a plan for pregnancy prefer use PrEP, they demonstrated a highly varied level adherence among users which was statistically significantly associated with adherence assessment.

The study neither included analysis of PrEP service delivery implementation fidelity context-based issue nor explored real experience of PrEP users since it was limited to follow up and observation.

2.3 Acceptability of Oral PrEP service delivery

Acceptability of service is a unique PrEP implementation construct and a common component of theoretical frameworks. However, the acceptability of oral PrEP service delivery is a multidimensional construct, and its conceptualization varies from context to

context (23). It is also a two-sided construct that includes client-based acceptability of PrEP and provider-based acceptability of PrEP (24). The dimensions of acceptability to PrEP according to Ortblad, Sekhon, Wang, and Rot (2022) (9)may include satisfaction with PrEP services, perceived effectiveness of service delivery, usability of service, intervention coherence, opportunity costs, ethicality (the intervention fits the user's value) and effective attitudes.

Another study (19)concede that the acceptability of PrEP services is also measured by willingness to uptake of service when unpacked to approval, interest, and commitment to using service as can be operationalized in different ways according to the specific context. Notwithstanding Ortblad, Sekhon, Wang, and Rot (2022)(9) identified that in many contexts retention to services has been used as basic and a sole indicator of acceptability of PrEP. However, though these scholars acknowledge acceptability and adherence to services as two interwoven aspects, they also warned that it is irrelevant to use retention to PrEP service as a sole indicator of acceptability while evaluating implementation of PrEP service delivery. Irungu et al (2021) conceptualized perceptions of PrEP as a basic dimension of PrEP implementation though process evaluation. Zhou et al (2022) and Roche et al (2021) all cited and used willingness to use as operational indicator of PrEP services acceptability construct(25).

Both the Tanzania national PrEP implementation framework (13), and WHO PrEP implementation framework identify and specify acceptability of PrEP service (26)as a fundamental aspect of effective PrEP implementation. Across emerging literature on PrEP service implementation framework uptake, and adherence to PrEP service delivery are closely embedded in acceptability to services (19). Acceptability of service in the context of PrEP framework is also one of the five basic constructs of accessibility with the latter also being a basic element of the effective PrEP program scale-up. A similar study (4), acknowledge that acceptability of PrEP service relates further and is dictated by operational inputs.

According to these scholars between the acceptability of PrEP service delivery and operational inputs, prep-related stigma emerges as a key implementation barrier that must be taken care of to ensure high acceptability of PrEP services. As a result, accessibility of

PrEP services is recommended to be a basic component of the PrEP service delivery cascade implementation framework and in monitoring and evaluation assessment (1,2). In the context of this review on the acceptability of PrEP service delivery, the researcher used a mix of these indicators of acceptability of PrEP to explore views from different viewpoints to enhance insights and understanding on implementation barriers and facilitators which is one of the essential considerations of PrEP implementation.

Koss et al (2020) conducted a prospective study on PrEP comparing Kenya and rural Uganda perspective on optimal PrEP engagement strategies, across PrEP acceptability among KPs from a range of their population categories. Engagement strategies, PrEP uptake, cascades, objective longitudinal PrEP adherence within 90 days of HIV testing were key evaluation aspects considered following quantitative research approach. Acceptability of PrEP services (27%) and was extremely lower among age group of 15 -24 years and among mobile.

In their scoped review of 33 articles on PrEP adoption included acceptability as key aspect of review Vanhamel et al (2020) intending to envisage how on is the new intervention in the existing channel and setting fit together. They concluded that type of PrEP service delivery channels, level of PrEP integration into existing services, delivery model and type of provider were explanatory variables on acceptability of PrEP and was intention to use services continuously. However, review Vanhamel et al (2020) used only client acceptability neglected provider acceptability and public acceptability.

2.4 Barriers to Oral PrEP Service Delivery Implementation

Across the literature review there is a consensus that there are PrEP implementation barriers. Though across PrEP frameworks operational factors are commonly highlighted as major barriers (27)(7)personal-related barriers (19) and social cultural barriers (20) are also cited. Operational factor is a common term often cited when evaluating factors influencing service delivery in health care. Though its use varies from context of implementation or design, operation factor in most cases is used to mean system or functional oriented inputs which can facilitate or acts as barriers to effective implementation of service delivery or planned program. They can also be defined as problems relating to working system, plan or devices which are normally evaluated to pave implementation of a project or program (28). Most important note is that operational factors may flourish and affect services implementation

from both provider and client perspectives (WHO, 2015). The most cited operational factor in PrEP implementation across framework is demand creation (UNICEF, 2021).

While considering demand creation on PrEP, implementation frameworks also recognize PrEP related stigma, strategies to promote acceptance of PrEP among KPs, and effective education and dissemination of information on PrEP as key operational inputs towards effective and successful PrEP interventions (WHO, 2015). Available frameworks also contemplate providers' dynamics which influence client decision making on PrEP. A study listed these dynamics to include knowledge, attitude, provider practices, sustained availability of drugs and supplies(25).

Effective promotion strategies and high awareness are two important aspects to define high or low PrEP acceptance among potential PrEP users and the public (WHO, 2018). Capacity building is cited as an important aspect to induce attitude and the provider's intention to prescribe PrEP (GOK, 2017). Trained PrEP provider (provider competency) is considered a vital implementation consideration that shapes providers' knowledge, positive attitude, practices on PrEP and personal interaction(29).

Interventional characteristics, affordability, kind, or type of PrEP service delivery model adopted and level of integration of PrEP with related services are all potential operational factors for implementation consideration. PrEP services delivery according to its frameworks are provided in two modalities. The facility-based model and community-based model. Its service delivery point meeting minimum quality standard criteria can be located at community services(outreaches), in comprehensive care clinics for HIV treatments (CCC)/Care and treatment clinics (CTCs), Drop-in Centers (DICE) and sexual and reproductive health clinics (7). All these aspects can trigger willingness to use/take services among target KPs.

All other key elements for PrEP service in HIV exposure are invented to how adherence is monitored by service providers and the level of adherence among users. As principle and focal element of PrEP service implementation encouraging adherence for effectiveness prevail as routine and compulsory feature in PrEP (CDC, 2021). Theoretical lens of the intervention reminds us that effective PrEP use differs from HIV treatment compliance in that PrEP can be started and stopped as an individual moves through different "seasons of

risk," whereas HIV treatment is ongoing. Ideally, reflecting across PrEP implementation frameworks (2,13)adherence monitoring is a key operational input of PrEP intervention implementation. Barriers beyond operational includes negative attitude, legal barrier (criminalization of sex work), stigma, discrimination (30)coercion, and implication of miss match of PrEP with the existing service program needs (24).

Coherent and effective implementation of the suggested PrEP service package involves multiple fidelity aspects. Theoretical literature on this concern acknowledges that if not well integrated in or incorporated into already existing HIV service delivery system barriers to PrEP implementation prevail which in turn impair expected outcomes mainly PrEP uptake and PrEP adherence. As literature reports, issue connected to implementation fidelity including limited access to PrEP, limited availability of skilled PrEP providers, and level of integration of PrEP across service delivery structure are key for effectiveness of PrEP service. Theoretical propositions for effective PrEP service delivery under frameworks from different state contexts also posit about the role of leadership and service coordination to leverage effectiveness of PrEP interventions at service delivery points. Successful PrEP implementation is enclosed to strong leadership and coordination which improves project implementation and also in turn reduce staff/provider burn out (27).

It is commonly envisioned by PrEP service delivery implementation frameworks that continuous supply of medications, the availability of enough human resource for health to provide PrEP, well-coordinated communication strategies such as design well-tailored messages to cater for Key population. All these aspects depict the proposition that implementation of PrEP service delivery has much to do with fidelity and that the later can explain the outcomes of the intervention specifically at service delivery points. In this study this concern was attended through the first research focus.

Through a qualitative analysis of PrEP Irungu et al (2021) measured the adoption to practice of the intervention, and contextual modification to integrate the proposed practices in 25 existing ART clinics in Kenya. Qualitative research using PrEP users' perspective was adopted to investigate how the practice of the intervention, and contextual modification fit into already existing ART. According to Irungu et al adherence to PrEP amongst eligible KPs was explained by several contextual issues. Kayesu and his associates (2021) in

Kampala also adopted a purely qualitative study among 26 AGYW aged 14-24 years to envisage PrEP user's personal experiences on uptake, adherence, and factors (barriers and facilitators) for uptake and adherences. These scholars employed qualitative research with KII and observation through perspective cohort (30)

Another study conducted (31) in Kenya, examined a lesson on implementation of PrEP using a case study of Jilinde PrEP project implemented in 10 counties in Kenya. The study provides critical insights on how several domains including PrEP supply, PrEP demand, acceptability of PrEP, fidelity of the implementation framework as well as government and community ownership overlap to influence PrEP scale up and uptake.

In Uganda Sundararajan et al (2022) through in-depth interview with 59 KPs from high risk HIH across categories were motivated to analyze acceptability to oral PrEP where they focused on exploring barriers and facilitators of acceptability. The results indicated that acceptability among potential PrEP users was explained by their perception of being at high HIV infection and consequently PrEP was accepted as preventive strategy. However, Sundararajan et al (2022) provide a narrow scope of PrEP acceptability as not included in the acceptability of providers and public(16). Similar results had been document in Kenya. A cross-sectional study in Colombia used organization perspective study to envisage PrEP acceptability among health care providers. In that study (32)noted that a high proportion of health care neither had intention to prescribe PrEP nor had intention to advocate it and displayed negative attitude towards PrEP. Critically the study was quantitative therefore did not explore on in personal experiences or towards the descriptive patterns.

CHAPTER THREE

METHODOLOGY

3.1 Study design

This process evaluation employed use of an exploratory cross-sectional study design following both qualitative and quantitative research approach in data collection and analysis. Exploratory cross-sectional study design was more appropriate given that the intent of the study was to generate analytical insights on PrEP framework process implementation and fidelity to implementation in Tanzania. More specifically, researchers suggest that it was more relevant to enrich a complete understanding of the implementation process through both the quantitative and qualitative insights from both the service provider and service users' perspectives. Hence a mixed research approach was of paramount.

3.2 Study Area

The study was conducted in Dares Salaam specifically at Kinondoni Municipal Council (KMC). For two reasons Dares Salaam region was considered as a most appropriate area for the study. First Dares Salaam was among the first regions to roll out implementation of PrEP services for HIV and up to February 2023 the region has the highest scale-up of PrEP services (offered in services catchment areas of 72 healthcare facilities) compared to other regions in Tanzania.

Distribution of these service catchment areas by facilities district health management information system database (DHIS2) follows; 24 healthcare facilities in Ilala Municipal Council, 15 healthcare facilities in Kinondoni Municipal Council, 14 healthcare facilities from Temeke Municipal Council, 14 health facilities from Ubungo Municipal council, and 5 health care facilities from Kigamboni municipal council. Secondly, the region has the highest proportion of KPs on service (29169 PrEP clients using service as of February 2023) compared to other regions. Due to the highest proportion of key populations on services, Kinondoni Municipal Council qualified as a suitable specific study site in Dares Salaam. Up to 28 February 2023, Kinondoni municipal council had 6463 PrEP clients. Within Kinondoni District five primary health care facilities offering PrEP services were selected

for the study. These health care facilities were Kijitonyama Health Centre, Kigogo Dispensary, Mwenge Dispensary, Bunju Health Center, and Hananasifu Dispensary.

3.3 Study population

The target population of the study comprised two different populations. The first population includes all people classified as key and vulnerable populations who are targeted by the PrEP framework in KMC. Researcher used PrEP data base as a source of the study population. The second target population comprises all healthcare workers entrusted with the responsibility of implementing the PrEP framework. Workers involved with PrEP framework implementation in KMC. Health care workers' population was necessary to describe Oral PrEP service delivery protocol implementation in KMC. Moreover, a handful number of targeted PrEP users - those who use and those who don't were requested to provide information on enablers of and barriers to PrEP uptake.

3.4 Inclusion and exclusion criteria

3.4.1 Inclusion criteria

In this study, the following were strictly observed as inclusion criteria for participants.

i. Key and vulnerable population with 18 years and above using PrEP services in the study area.
ii. All PrEP healthcare workers with at least seven months of PrEP service implementation in KMC
iii. High willingness to participate in the study.

3.4.2 Exclusion criteria

In scenarios characterized by the following criteria investigator declined the inclusion of eligible participants in the study.

i. Key and vulnerable population with 18 years and above using PrEP services in the study area who reported or showed feelings of serious illness during data collection
ii. All PrEP health care workers with at least seven months of PrEP service implementation in KMC with more than one task per time during data collection.
iii. Low willingness to participate in the study.

3.5 Sample size and sampling procedure

3.5.1 Sample size and sampling procedure for Quantitative component

(a) KPs sample size and sampling procedure

Sample size

The study has consistently used KPS as a quantitative sample. KPS is in principal infinite population. Therefore, its sample size was determined based on a proportional prevalence formula. The sample size (SS) for the infinite population is determined by the confidence interval of the population (Z), the prevalence of interest in the study population (p), and the margin of error (M). The relationship of these factors can be expressed as

$$\text{Sample size (SS) for infinite population} = [Z^2 p\,(1 - p)]/M^2$$

In this study, the confidence interval (Z) level will be taken at 95%, equivalent to a 1.96 value. The prevalence of KPs in the urban area of Tanzania (p) will be 25% (Maruyama et al, 2021), and the margin of error (M) was 0.08.

Thus, Sample size (SS) for KPs = $[1.96^2 * 0.25\,(1 - 0.25)]/0.08^2$

$$SS = 113 \text{ KPs}$$

Assuming a 10 % non-response rate, the adjusted sample size was 113/0.9 = 135 KPs

Sampling procedure: convenience sampling

During data collection, a convenience sampling procedure was used to select PrEP users (key and vulnerable population) among PrEP users available at the healthcare facilities and the facility led-mobile clinics. PrEP users available in healthcare facilities and facility led mobile clinics during data collection were invited to participate in the study at the time of exit after completing their service. The researcher strictly recruited themes based on their willingness/ interest and time to participate in the study.

3.5.2 Sample size and sampling procedure for Qualitative component

a) Sample size and Sampling procedure for PrEP providers

Sample size

This study used a qualitative research approach to select key informants among PrEP providers. In this study saturation was attained with 10 participants. The 10 participants was considered as qualitative sample size for this study.

Purposive sampling procedure

Identification and selection of health care workers (PrEP providers) was achieved through a purposive sampling procedure. This is because through the purposive sampling procedure health care providers with more knowledge and experience on PrEP implementation in the study area were deliberately recruited.

3.6 Data Collection Procedure, Methods, and Instruments

3.6.1 Data collection methods

Data collection was achieved through structured questions and key informant interview (KII). Either method is explained herein.

(i). Structured questions

Structured questions were used to collect quantitative data from 135 KPs. The first set of questions collected data on the demographic characteristics of respondents. The second set will comprise questions on the process of PrEP delivery, acceptability and PrEP uptake. The third set of questions collected data related to barriers on oral PrEP service delivery implementation. These structured questions are annexed in the appendix. Reliability and validity of structured questions. To ensure reliability and validity of structured questions the following were kept into consideration.

Developing questions consistent to existing studies and theory: The structure, arrangement and contents of structured questions was developed consistent to theory and previous studies.

Vetting and expert opinions: The structured questions developed were submitted to supervisors at MUHAS and other experts in research and HIV services delivery to KPs for vetting and search of third expert views.

Pilot test of the questions: The question developed was piloted in Temeke municipal to justify for its appropriateness, responsiveness and examine whether the questions are clearly understood by respondents. All non-responsive and questions revealing to be less clearly understood were amended to achieve collection of the intended information. Mbagala Round

Table Health Center, and Tambukareli dispensary were the two health facilities preferred for pilot test of the questions.

(ii). Key informant interview

Data were gathered from a sample of 10 informants using key informant interviews. All key constructs were covered in the data collection tool's questions, which span all three search questions. When gathering data, the researcher employed probing techniques to thoroughly investigate all relevant information, including information on sensitive subjects. To aid in data collection and analysis, the researcher was taking notes during the interview and recording conversions. Interviews were audio recorded and notes were taken during data collection, Data was collected and transcribed verbatim and translated into English before the analysis. Tools for gathering data are annexed after references.

The following issues, as suggested by Guba and Lincoln (1989), were strictly observed by the researcher to ensure high trustworthiness of the key informant interview:

Credibility: degree to which the findings accurately represent the experiences and perspectives of the participants. This was ensured by sharing the study findings with the study participants to verify their experience and perspectives are presented on the findings. We will also share the findings with other researchers to review and critique the findings.

Transferability: Transferability refers to the degree to which the findings can be generalized or applied to other settings or contexts. This was ensured by using purposive sampling to ensure we have a wide range of experience from our study we interviewed service providers, peer educators and council health managers/coordinator.

Dependability: Dependability refers to the degree to which the findings are consistent and reliable. This was ensured by using multiple sources of data, the entire research process will be documented so that others can be able to have access to the information.

Conformability: Conformability refers to the degree to which the findings are free from bias or the influence of the researcher; this was ensured by other researchers review and critique the findings to get their perspective on the research and any potential bias from the study.

3.7 Data management and Data analysis technique

3.7.1 Data management

Data management was achieved through a number of approaches. These include clearing of data, checking and auditing completeness of data collection tools before and after data collection process. Protected excel sheets and a statistical package for social science (SPSS) was a preferred data management tool.

3.7.2 Data analysis technique

Qualitative and quantitative data were analyzed separately and then results compared to facilitate interpretations. SPSS was used as data management tool for quantitative data, while a matrix excel sheet was used as analysis tool for qualitative data. In both case analysis was performed per specific objectives.

3.7.3 Analysis of Quantitative data

For quantitative data descriptive/ univariate analysis was followed to analyze demographic information and all research objectives. The second objective of the study is a mixed research objective. The objective has two categorical variables (PrEP acceptability and PrEP uptake), the research was bivariate analysis specifically a chi-square test of statistical independence to establish an association between PrEP acceptability and PrEP uptake.

3.7.4 Analysis of Qualitative data

Thematic analysis was used to analyze qualitative data. The analysis comprised the following steps. Familiarization with the data by reading and re-reading the transcripts

1. Generating codes - each sentence/ paragraph in the transcripts was read to identify underlying meanings and assign code label of the meanings
2. Generating emergent themes - similar codes were combined according to shared meanings to develop themes
3. Refining emergent themes. This step involved re-examining data constituting each theme with a view of identifying constituent parts which were conceptualized as sub-themes
4. Identifying relevant quotes per the emergent themes

5. Writing the report, guided by refined emergent themes and sub-themes with supportive quotes

Validation of findings: The findings from the analysis were shared with the managers and service provided to get the feedback and revisions to be included in the study. The analysis of the review of the document on PrEP implementation was conducted along with thematic analysis. The findings from the review of implementation would assist in validating practices on the PrEP framework.

3.8 Ethical considerations

Ethical clearance for conducting this study was obtained from Muhimbili University of Health and Allied Science (MUHAS) in the Directorate of Research and Publication through Ethical Review Committee. Researcher collected an introduction letter from Director of postgraduate studies. The letter was submitted to the Director of Kinondoni Municipal Council for data collection permission. During data collection study participants were introduced to the purpose of the study and given a chance to ask where clarification is needed. They were assured of high confidentiality, and that the information he/she provided was solely used for this study and participation in the study was not affect their affairs including service use in anyway. They were informed that participation in the study is voluntary and he/ she may decline from the study at any time. Moreover, they were assured that no name or identity of a participant would appear in the analysis. Study participants provided verbal and written informed consent before participating in the study.

CHAPTER FOUR

STUDY FINDINGS

4.1 Introduction

This chapter presents findings from both qualitative and quantitative data extracted from focus in-depth interviews and questionnaire methods respectively. The part also presents the demographic characteristics of respondents in the questionnaire. The chapter is structured in accordance to the specific objectives. Under these main sections, the results are presented as per relevant analytical themes that emerged from data analysis. The analysis of the data generated seven analytical themes related to the process of Oral PrEP service delivery and barriers for PrEP implementation fidelity. The seven analytical themes are presented under these respective sections as shown in Table 1. These analytical themes are: Identification of eligible PrEP candidates, PrEP initiation, adherence, continuation, and discontinuation with PrEP, acceptability of Oral PrEP and its uptake rate, beliefs and negative attitudes, low awareness and knowledge on PrEP services, none compliance among PrEP users, and misconceptions and stigmatization.

Table 1: Themes of the study

Sections	**Themes**
Process of Oral PrEP service delivery	Identification of eligible PrEP candidates
	PrEP initiation
	Adherence, continuation, and discontinuation with PrEP
	Acceptability of Oral PrEP and its Uptake Rate
Barriers to PrEP implementation fidelity	Beliefs and negative attitudes
	Low awareness and knowledge of PrEP services
	Non- Non-compliance among PrEP users
	Misconceptions and stigmatization

4.2 Demographic characteristics of the study participants

The study involved 135 participants, with a mean age of 41.5 years. Most respondents were aged 46-60 years (42.9 %), followed by 36-45 years (38.6 %). More than half the of the study participants were female (70.4 %). About 15% were Adolescent Girls and Young

Women (AGYW),35 % were Female sex workers (FSW), 5% were Men who have Sex with Men (MSM), and 40% were people who inject drugs (PWID).

Regarding education, the majority had primary education (48.1%), with a minority with informal education (11.1%). Marital status indicated that most were single (65.2%). Most reside with age mate friends (41.5%). Number of children categories indicated that majority were having no child (50.4%). Nearly half of the study participants were not employed (48.9%). Regarding behavioral characteristics (HIV test), majority were tested HIV (94.1%). More than half perceived lifetime risk of HIV acquisition was high risk (63%) as shown in table 2.

Table 2: Demographic characteristics of the study participants (n=135)

Variable		Frequency	Percentage (%)
Sex of respondent	Male	40	29.6
	Female	95	70.4
Age	16-24 years	16	11.9
	25-35 years	25	18.5
	36 – 45 years	36	26.7
	46 – 60 years	58	42.9
Level of education	No formal education	15	11.1
	Primary education	65	48.1
	Secondary education	45	33.3
	Post-secondary education	10	7.4
Marital status	Single	88	65.2
	Married	13	9.6
	Widow	3	2.2
	Divorced	31	23.0
Number of children	None	68	50.4
	1Children	39	28.9
	2-4children	27	20.0
	5+ years	1	0.7
Current residence arrangement	Reside at home with parents	19	14.1
	Reside with my age mate friends	56	41.5
	Reside alone in my house/ rent room	53	39.3
	Reside in my relative family	7	5.2
Employment status	Not employed	66	48.9
	Self-employee	51	37.8
	Public employee	4	3.0
	Private / NGOs employee	14	10.4
Behavioral characteristics (HIV test)	YES	127	94.1
	NO	8	5.9
Perceived lifetime risk of HIV acquisition	No risk	8	5.9
	Low risk	37	27.4
	High risk	85	63.0
	Don’t know	5	3.5

4.3 The process of Oral PrEP service delivery in KMC

In response to the first study objective, the study explored the process of oral PrEP service delivery in KMC. The analysis generated three analytical themes namely, Identification of

eligible PrEP candidates, PrEP initiation, adherence, continuation, and discontinuation with PrEP, acceptability of Oral PrEP and its uptake rate. Below is the description for each: -

4.3.1 Identification of eligible PrEP candidates

The study participants reported that PrEP services are delivered through facility based and community strategy. The key informant interview reported that the process of PrEP service delivery starts with identification of eligible PrEP candidates among FSW, PWID, AGYW, MSM and those of long-distance drivers. It was indicated that identification is done mainly through screening and assessment through specific questionnaires. Screening and assessment for PrEP eligibility is done at CTCs and other testing points. The screening process is guided by a standard tool.

Those who meet eligibility criteria are referred to health care providers to undergo further assessments such as creatinine test and PrEP service initiation. Eligibility assessment is conducted by trained providers and testers. It was specified that through screening, if KPS meet three or four criteria qualified to be eligible for PrEP. Facility based PrEP services are provided in the dedicated service points mainly in CTCs. On the other hand, community-based PrEP service is conducted in specific target areas called "Vijiweni". It was also indicated that at the community level, peer educators are used to conduct screening. Before being seen by a clinician, a client gets counselling from peer educator. One participant reported that.

> *"...at community, we walk a lot in the streets, that is, we visit them in the streets, and we screen there in the streets, and we go to their hotspots(vijiwe)s, like in the dungeons, what, we follow them there and screen them, and we see that this one eligible."* (**KI 01, healthcare provider)**

The study participants added that Use of peer educators is considered as an engagement strategy to win client's willingness and PrEP acceptance. One of the study participants was quoted saying;

> *"...before we meet them, we have educators who prepare a client to win readiness for assessment by providers"* **(KI 06, healthcare provider).**

4.3.2 PrEP initiation

The key informants indicated that before any healthcare provider initiates PrEP, a client has to be tested for HIV. This was labeled as the first criterion to start PrEP. In addition, clients undergo creatinine tests for Hepatitis B. As a rule of thumb, PrEP initiation is done subject to results on HIV and Hepatitis B, and it is initiated only to individuals tested negative. PrEP initiation is done the same day of screening. The study participants added that only healthcare personnel (Nurses or clinicians) trained on PrEP are allowed to initiate PrEP. Before using PrEP, clients are given consent forms to sign for their readiness to use the drugs. Describing the process and criterion for PrEP initiation key informant cited that

> *"…Before you start PrEP for the client, you must first satisfy yourself that the client is HIV negative and does not have signs of acute-acute HIV infections. Then also, you need to make sure that client doesn't have problems like kidney failures that may interact with those drugs or give him severe conditions of those drugs."* **(KI 03, healthcare provider).**

4.3.3 Adherence, continuation, and discontinuation with PrEP

The study participants reported that adherence, continuation, and discontinuation with PrEP as imperative practice in the process of effective PrEP. Following PrEP initiation, the length of continuation varies from client to client. Informants reported that some stay on PrEP for six months; some have three months, and some have a year going on. The arrangement for monitoring continuation and adherence includes use of monthly schedule, for monthly medications. One participant reported that.

> *"…for clients who are continuing with PrEP, we often have a monthly schedule, for monthly medications, who are already eligible, and we are satisfied with their creatinine response."* **(KI 08, healthcare provider).**

Moreover, the interviewed participants added that continuation is affected by some interruptions like changing residential areas and feeling. As one participant reported that;

> *"…we talk to them regularly and we call them, we ask them about their challenges, and the measures again and we make sure that they continue with*

the service because we monitor them regularly; we contact them on the phone also for follow-up..." **(KI 05, Healthcare provider).**

oral PrEP framework implementation's acceptability reflects PrEP uptake fidelity in KMC

4.4 Oral PrEP implementation's acceptability and its uptake fidelity in KMC

The results presented in Table 3 indicated that about 50 % of all KPs involved in this study had a high level of PrEP acceptability, compared to 12 % of KPs who displayed a low level of PrEP acceptability.

Table 3: Level PrEP acceptability among KPs respondents based on SEM

Description of SEM test	1-Low 0-1.9	2-Medium 2.0	3-High 2.1-3.0	Mean Score	Std Deviation
What is your level of PrEP acceptability as a method of preventing HIV?	17(12%)	51(38 %)	67(50%)	2.37	0.699
Valid N List wise and average values	(N=135)			2.37	0.699

4.4.1 Oral PrEP Uptake among KPs respondents

Descriptive analysis results show that the uptake of Pre-Exposure Prophylaxis (PrEP) among the Key and Vulnerable Populations was 70%, compared to 30% who had never used PrEP as a method of preventing HIV, as shown in Table 4. As shown in Table 4, the study results revealed that over half (56%) of the KPs respondents had information about PrEP as a method of preventing HIV prior to the data collection visit. More than result displayed through Table 4 reveals that three folds (76 %) of KPS respondents were willing and attested high acceptance of take a pill every day.

Table 3: PrEP Uptake fidelity among KPs respondents

Test attributes on PrEP Uptake	Summary Statistics outputs		
	N= 135		
	YES	NO	Total
Ever used PrEP as a tool for preventing HIV	95(70%)	41(30%)	135
Ever heard PrEP as a method of preventing HIV	76(56%)	59(44%)	135
Willingness to accept and take PrEP among KPs	102(76%)	33(24%)	135

4.4.2 The association between PrEP implementations' acceptability and its uptake

Following the descriptive analysis above, a cross-tabulation involving the Chi-Square test of statistical independence was undertaken to appraise the implementations' acceptability of Oral PrEP on its uptake fidelity based on intervention rate in KMC. Results displayed in Table 4, show that PrEP use as a method of preventing HIV was statistically significantly associated with the level of PrEP acceptability as a method of preventing HIV among KPs ($P \leq 0.05$). Likewise, PrEP use as a method of preventing HIV was statistically significantly associated with willingness to accept and take a pill every day among KPs ($P \leq 0.05$) as shown in table 4.

Table 4:Cross-tabulation with chi-square on PrEP acceptability and uptake

Test attributes	Summary Statistics outputs		
	Chi-Square	P-Value	Df
Used PrEP as a method of preventing HIV * level of PrEP acceptability as a method of preventing HIV	4.690	0.036	2
Used PrEP as a method of preventing HIV * willing to accept and take a pill every day	5.403	0.020	1

4.5 Barriers to PrEP implementation fidelity

Through in-depth interviews, healthcare providers were asked about barriers to PrEP implementation fidelity. The analysis of the findings generated three sub-themes, as described below: low awareness and knowledge of PrEP services, none compliance among PrEP users, and misconceptions and stigmatization

4.5.1 Low awareness and knowledge of PrEP services

The study participants reported that knowledge of PrEP (Pre-Exposure Prophylaxis) remains is still low in the community, particularly in street settings. The study participants added that the community lacks knowledge on understanding the preventive nature of PrEP and how it can protect them from HIV infection. As one study participant reported that;

> *"……So, it's possible that maybe her boyfriend doesn't have that knowledge about PrEP or he's the one who's afraid about his boyfriend." (***KI 07, healthcare provider**)

4.5.2 Non-compliance among PrEP users

The study participants reported that PrEP users in KMC are struggling to adhere to the prescribed daily regimen of PrEP medication. The participants added that inconsistent or irregular use of PrEP has emerged as a significant challenge, potentially compromising the effectiveness of this HIV prevention method. The key informants noted that fear of social stigma or the need to disclose PrEP use to partners or family members may discourage some users from adhering to the regimen. Additionally, forgetting to take the medication consistently can lead to lapses in PrEP use. The participants also reported that the failure of clients to follow the proper procedure has resulted in new infections. Consequently, some clients have lodged complaints about the drugs failing to prevent them from becoming infected. One participant reported that.

> *"There is a major challenge in complying with the use of PrEP among clients, due to either fear or the discrimination they face in the community. This is an issue that we as healthcare providers continue to address with our clients (***KI 10, healthcare provider**)

4.5.3 Misconceptions and stigmatization

The study participants reported on the misconceptions and stigmatization were other potential barriers featuring fear of being labeled as having HIV infection at the family and community level and perceiving PrEP as ARVs PrEP arguing that should be taken by ART clients and a claim that once you stop using PrEP the risk of acquiring HIV infection will be high. As one participant reported that;

> *"……Well.the first thing is this, having false beliefs. That they believe that these will not work, that is, these, these tablets are for who.. are infected with the AIDS virus. That is a challenge for me there are other challenges that when someone uses it, they feel a little different in their body, so some people stop. Therefore, I feel that the challenge is greater, they often stop. Therefore, until we follow up them, and repeat them again, educate them more after that they continue, but I see that those are the initial steps for a person who is starting to use, a little bit can cause problems."* **(KI 09, healthcare provider)**

Furthermore, the assessment of barriers for PrEP implementation assessed through KPs to indicate what they don't like during visit on PrEP use. Figure 6, shows that receiving PrEP in health care facilities was indicated by over three folds (n=77;57 %) as a barrier. Long waiting time (n=14;10.4 %), environment where PrEP are delivered (n=11;8.1 %), and missing PrEP pills (n=9;6.7 %), figured out as other three common issues PrEP user's dislike and which are likely to affect implementation fidelity.

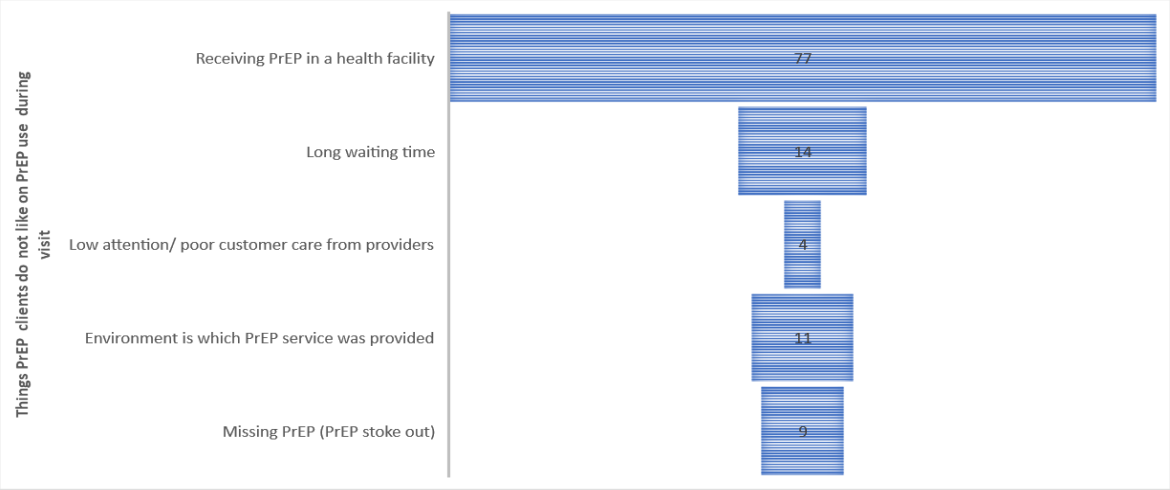


Figure 4: Things PrEP users' dislikes while using the services

Factors affect ability to accept and take PrEP daily among KPs

Result displayed through Table 5 reveals that a considerable proportion of respondents (n=46;34.1 %), expressed fear of being labeled as having HIV infection. Discriminatory behavior of sexual partners (n=22;23.7 %), and discriminatory behavior of community (n=22;16.3 %) were the other two common factors listed. Fear of side effects was also a prevalent concern among respondents (n=10;7.4 %).

Table 5: Factors affect ability to accept and take PrEP daily

Factors identified	Assessment scores	
	Frequency	Percent
Negative or insufficient social support	8	5.9
Fear of side effect	10	7.4
Fear to be labeled as having HIV infection	46	34.1
Discriminatory behavior of sexual partners	32	23.7
Discriminatory behavior of community	22	16.3
Forgetfulness	7	5.2
Low perception of HIV risk	2	1.5
Confusion about ARV as prevention	7	5.2
Other	1	.7
Total	135	100.0

4.6 Strengths of the study and limitations of the study

4.6.1 Strengths of the study

The major strength of this study is that it is among the first process evaluation focusing on PrEP framework implementation fidelity and provide preliminary bases for the intervention scale up in Tanzania. Moreover, the findings of the study were generated from both PrEP users and providers perspectives.

4.6.2 Limitations of the study

The execution of this study faced a number of limitations. Major limitations were;

(i) This study used only one district implementing PrEP framework. Thus, the results of the study might be less generalized to other districts in Dares Salaam and elsewhere in Tanzania.

(ii) Likewise, use of convenience sampling limit clear generalization of the results since it may intrude the representativeness of study population.

(iii) Moreover, since the convenience sampling procedure is known for its likelihood of inducing selection biases. Therefore, this may distort and undermine the implications, utility and policy recommendations generated by the study**.**

CHAPTER FIVE

DISCUSSION

5.1 Introduction

In this section the study findings are interpreted and discussed with a comparison of what was reported by other studies. Under this study, the implementation fidelity of the PrEP framework in KMC was based on the process of Oral PrEP service delivery, acceptability of Oral PrEP on its uptake rate, and barriers to PrEP implementation fidelity.

5.2 The process of Oral PrEP service delivery in KMC

The study found that the identification of eligible high-risk potential PrEP candidate was done through screening and assessment using specific questionnaires at the facility level and community level. PrEP was solely provided to FSW, PWID, AGYW, MSM and long-distance drivers. The focus on serving key populations like FSW, PWID, AGYW, MSM, and long-distance drivers, is in line with the target populations recommended in the global and national PrEP guidelines (2,13). The study findings point to a strategic, targeted, and community-engaged approach to PrEP implementation in Kinondoni municipal council, which has the potential to significantly impact HIV prevention efforts among key vulnerable populations. The study findings are in line with previous studies on the identification of eligible high risk potential candidates for PrEP(1,2).

The findings from this study indicate that PrEP was initiated at KMC only if the following criteria were met: 1) confirmed HIV-negative status, 2) no acute HIV infection symptoms or signs, mainly Hepatitis B, and 3) the individual was confirmed to be at significant risk for HIV. The study findings indicate that the three key requirements stipulated in the WHO and Tanzania National PrEP guidelines were strictly considered before initiating PrEP. Studies show that initiation of oral PrEP intervention among KPs is highly promising in reducing HIV infections, as oral PrEP reduces the need to consent to condom use and avoids inconsistent condom use during sexual acts(3). The study findings are aligned with other studies conducted in Sub-Sarahan Africa on the ignition of PrEp (4–6).

5.3 The acceptability of Oral PrEP on its uptake

The findings from this study revealed that the uptake of Pre-Exposure Prophylaxis (PrEP) among the KPs was 70 % in KMC. However, it remains lower compared to the UNAIDS' global target of reaching 95 % of KPs. The possible explanation might be that KPs, such as sex workers, and people who inject drugs, face significant stigma and discrimination within their communities and from healthcare providers and gaps in awareness and understanding about the benefits and availability of PrEP among some KPs and all these lowers the fidelity of the framework implementation. The study findings suggest leveraging peer-to-peer outreach strategies, such as utilizing KPS community members as PrEP champions, to effectively reach and inform their peers and implement comprehensive anti-stigma campaigns to challenge misconceptions and promote acceptance of KPs within the broader community. The uptake of PrEP shown in this study is lower compared to the uptake indicated in the study conducted in the Democratic Republic of the Congo (DRC), which reported a 90% uptake rate (7) and its was higher compared with the study conducted in Tanga (55%)(3). The low uptake infers low fidelity to implantation framework from users' perspective. Such a difference in PrEP uptake rates can be attributed to factors such as study population, geographical location and level of awareness and education. The study findings align with previous study conducted in Columbia on the uptake of PrEP among KPs (Gilkey et al, 2019)(11).

The study findings revealed that about 50 % of all KPs involved in this study had a high level of PrEP acceptability compared to 12 % of KPs who displayed low level of PrEP acceptability. The study findings are in line with the study conducted in India (25)noted that 67 % of KPs demonstrated acceptability to PrEP. The study findings indicated higher acceptability compared to the conducted in Nigeria reported acceptability of 48.2%(19). The observed differences of PrEP acceptability in this study and previous studies from elsewhere might be explained by the study contexts and study settings.

The results of this study found that 76 % of KPS respondents were willing and accepted to take a pill every day. PrEP acceptance increased following provider training on PrEP provision and awareness creation to the target population. These evidence reveals that

training is a critical component in effective PrEP service delivery process. Similar evidence was documented by Koss et al (2022)(19) from Cananda.

5.4 Barriers to PrEP implementation fidelity

The study findings revealed that low level of awareness and knowledge on PrEP services among KPs were significantly barriers to PrEP implementation fidelity. Low level of awareness might be due limited outreach and awareness campaigns targeting these key populations as well as existing social norms, cultural beliefs, and stigma surrounding HIV/AIDS and prevention methods may hinder KPs from seeking PrEP services. The study findings from Kenya indicate that awareness and uptake of PrEP remains very low among KPs who could potentially benefit from this HIV prevention method (8). The lack of knowledge about PrEP among these high-risk groups may be a significant barrier limiting its utilization. The study findings highlight to implement targeted outreach and awareness campaigns to educate KPs about PrEP, its benefits, and where to access the services as well as to develop and distribute educational materials in local languages and formats accessible to KPs. Moreover, conducting PrEP literacy workshops and training sessions for KPs to improve their understanding of the prevention method. The study findings are in line with previous studies which reported low level of awareness creation among KPS (9,10)

The study findings found that Key Populations (KPs) experience stigmatization and misconceptions from the community arising from the use of Pre-Exposure Prophylaxis (PrEP). The potential reasons may be KPs such as sex workers, and people who inject drugs are already heavily stigmatized in many communities. The use of PrEP by these groups may further marginalize them and compound existing stigma. Moreover, PrEP is often associated with high-risk sexual behaviours, such as condomless sex, hence the community may make judgements or have negative perceptions about KPs who use PrEP, assuming they are engaging in risky sexual practices. The study done Thailand found that people's perceptions or misconceptions lead them to believe PrEP and ART are the same, especially if they do not recognize the brand or generic names and only see similar ingredient lists, so PrEP medication may cause HIV-related stigma and/or fear in its users(11). Studies found that some members of society react negatively or object if their close family members or loved

ones choose to use PrEP as an HIV prevention method (12). The study findings are consistent with other studies conducted elsewhere (13,14).

The study findings found that fear of side effects of PrEP among Key Vulnerable Populations (KPs) was the were significance challenge for PrEP implementation fidelity. This is associated with limited understanding about PrEP, its mechanism of action, and the actual side effect profile based on clinical evidence as well as negative experiences, rumors, or misconceptions shared by peers, family members, or other community members can perpetuate the fear of PrEP side effects among KPs. The studies found that some of KPs do not take PrEP because didn't want to experience any negative side effects (15). The study findings suggest addressing their concerns and misconceptions through comprehensive education and counseling could help increase confidence and willingness to use PrEP. The study findings corroborate with previous studies which reported that fear of side effect as a major barrier for the uptake of PrEP among KPs (16,17).

CHAPTER SIX

CONCLUSION AND RECOMMENDATION

6.1 Conclusion

In summary, the study found that Oral PrEP service delivery in Kinondoni Municipal Council involved the following components: identification of eligible PrEP candidates, PrEP initiation, adherence monitoring, and continuation and discontinuation of PrEP. PrEP use among key vulnerable populations (KPs) as a method of preventing HIV was significantly associated with willingness to accept and take a pill every day. Despite the successful implementation of the PrEP framework among KPs, there were barriers facing its implementation, including low awareness among community members, misconception and stigmatization, and non- compliance among PrEP users.

6.2 Recommendations

The study recommendation is based on the area of implementation which is at the facility level and areas for further study.

1. Health care workers should monitor re-testing for adherence and ensure that is conducted to all eligible all candidates by all health care providers before initiating PrEP.
2. The Program coordinators should plan and conduct monthly supportive supervision and routine monitoring of all healthcare facilities to ensure high PrEP adherence and uptake.
3. The Facilities in collaboration with implementing partners should train more PrEP providers and emphasize more on the use of providers to expedite PrEP service demand creation to target population and enhance the acceptability of PrEP among KPs
4. The Facilities through community health care workers and peer educators should use behavioral change communication (BCC) message to address misconceptions and stigmatization of PrEP among the target population and community.
5. Healthcare facilities in Kinondoni municipal council should use peer educators to conduct screening and prepare PrEP candidates at the community level.

6. Health facilities through project implementers at the facility should ensure community and facility-based PrEP services are integrated to ensure the sustainability of the project implementation.

6.2.1 Areas for further study

Further study should expand investigation on the causal effect relationship between acceptability and uptake of PrEP using a large sample and study design which can reveal the actual causal effect.

REFERENCES

1. CDC. Center for Disease Control and Prevention. 2022. Pre-Exposure Prophylaxis (PrEP) | HIV Risk and Prevention | HIV/AIDS | CDC.

2. CDC. CDC Fact sheet Today's HIV/AIDS Epidemic The Scope and Impact of HIV in the United States. Centers for Disease Control and Prevention. 2016.

3. WHO. WHO Implementation Tool for Pre-Exposure Prophylaxis (PrEP) of HIV infection. Module 8: Site planning. 2017;2(July):14. Available from: https://www.who.int/hiv/pub/prep/prep-implementation-tool/en/

4. Lau JYC, Hung CT, Lee SS. A review of HIV pre-exposure prophylaxis (PrEP) programmes by delivery models in the Asia-Pacific through the healthcare accessibility framework. Vol. 23, Journal of the International AIDS Society. 2020.

5. Antonini M, Da Silva IE, Elias HC, Gerin L, Oliveira AC, Reis RK. Barriers to pre-exposure prophylaxis (Prep) use for hiv: An integrative review. Vol. 76, Revista Brasileira de Enfermagem. 2023.

6. Cambou MC, Landovitz RJ. Challenges and Opportunities for Preexposure Prophylaxis. Vol. 29, Topics in Antiviral Medicine. 2021.

7. Atkins K, Musau A, Mugambi M, Odhyambo G, Tengah SA, Kamau M, et al. Health system opportunities and challenges for PrEP implementation in Kenya: A qualitative framework analysis. PLoS One [Internet]. 2022;17(10 October):1–18. Available from: http://dx.doi.org/10.1371/journal.pone.0259738

8. Molina JM, Pintado C, Gatey C, Ponscarme D, Charbonneau P, Loze B, et al. Challenges and opportunities for oral pre-exposure prophylaxis in the prevention of HIV infection: Where are we in Europe? Vol. 11, BMC Medicine. 2013.

9. Ortblad KF, Sekhon M, Wang L, Roth S, van der Straten A, Simoni JM, et al. Acceptability Assessment in HIV Prevention and Treatment Intervention and Service Delivery Research: A Systematic Review and Qualitative Analysis. Vol. 27, AIDS and Behavior. 2023.

10. Duthe JC, Bouzille G, Sylvestre E, Chazard E, Arvieux C, Cuggia M. How to identify potential candidates for HIV pre-exposure prophylaxis: An AI algorithm reusing real-world hospital data. In: Public Health and Informatics: Proceedings of MIE 2021. 2021.

11. Gilkey MB, Marcus JL, Garrell JM, Powell VE, Maloney KM, Krakower DS. Using HIV Risk Prediction Tools to Identify Candidates for Pre-Exposure Prophylaxis: Perspectives from Patients and Primary Care Providers. AIDS Patient Care STDS. 2019;33(8).

12. SOAR P. Engaging male partners of adolescent girls and young women in HIV services in Malawi: Findings from DREAMS implementation science research. Project SOAR Results Brief. 2018.

13. Ministry of Health, Community Development, Gender E and C. United Republic of Tanzania Ministry of Health , Community Development , National Aids Control Program Implementation Framework for Pre-Exposure Prophylaxis of Hiv in Tanzania Mainland. 2021;(May):10–5.

14. Sidebottom D, Ekström AM, Strömdahl S. A systematic review of adherence to oral pre-exposure prophylaxis for HIV - How can we improve uptake and adherence? BMC Infect Dis. 2018;18(1).

15. Irungu EM, Odoyo J, Wamoni E, Bukusi EA, Mugo NR, Ngure K, et al. Process evaluation of PrEP implementation in Kenya: adaptation of practices and contextual modifications in public HIV care clinics. J Int AIDS Soc. 2021;24(9):1–11.

16. Sundararajan R, Wyatt MA, Muwonge TR, Pisarski EE, Mujugira A, Haberer JE, et al. Understanding PrEP Acceptability Among Priority Populations: Results from a Qualitative Study of Potential Users in Central Uganda. AIDS Behav. 2022;26(8).

17. Mayanja Y, Kamacooko O, Lunkuse JF, Muturi-Kioi V, Buzibye A, Omali D, et al. Oral pre-exposure prophylaxis preference, uptake, adherence and continuation among adolescent girls and young women in Kampala, Uganda: a prospective cohort study. J Int AIDS Soc. 2022;25(5).

18. Dunbar MS, Kripke K, Haberer J, Castor D, Dalal S, Mukoma W, et al. Understanding and measuring uptake and coverage of oral pre-exposure prophylaxis delivery among adolescent girls and young women in sub-Saharan Africa. Vol. 15, Sexual Health. 2018.

19. Koss CA, Charlebois ED, Ayieko J, Kwarisiima D, Kabami J, Balzer LB, et al. Uptake, engagement, and adherence to pre-exposure prophylaxis offered after population HIV testing in rural Kenya and Uganda: 72-week interim analysis of observational data from the SEARCH study. Lancet HIV. 2020;7(4).

20. Haberer JE, Mugo N, Baeten JM, Pyra M, Bukusi E, Bekker LG. PrEP as a Lifestyle and Investment for Adolescent Girls and Young Women in Sub-Saharan Africa. J Int Assoc Provid AIDS Care. 2019;18:1–5.

21. Wang Y, Mitchell JW, Zhang C, Liu Y. Evidence and implication of interventions across various socioecological levels to address pre-exposure prophylaxis uptake and adherence among men who have sex with men in the United States: a systematic review. Vol. 19, AIDS Research and Therapy. 2022.

22. Wyatt MA, Pisarski EE, Kriel Y, Smith PM, Mathenjwa M, Jaggernath M, et al. Influences on PrEP Uptake and Adherence Among South African Women During Periconception and Pregnancy: A Qualitative Analysis. AIDS Behav. 2023;27(1).

23. Castel AD, Feaster DJ, Tang W, Willis S, Jordan H, Villamizar K, et al. Understanding HIV care provider attitudes regarding intentions to prescribe PrEP. J Acquir Immune Defic Syndr (1988). 2015;70(5).

24. Pleuhs B, Quinn KG, Walsh JL, Petroll AE, John SA. Health Care Provider Barriers to HIV Pre-Exposure Prophylaxis in the United States: A Systematic Review. Vol. 34, AIDS Patient Care and STDs. 2020.

25. Zhou L, Assanangkornchai S, Shi Z, Jiang F, Yang D, Shi W. Acceptability of Pre-Exposure Prophylaxis and Non-Occupational Post-Exposure Prophylaxis among Men Who Have Sex with Men in Guilin, China. Int J Environ Res Public Health. 2022;19(6).

26. WHO implementation tool for pre-exposure prophylaxis (PrEP) of HIV infection Provider module for oral and long-acting PrEP.

27. McCormack S, Dunn DT, Desai M, Dolling DI, Gafos M, Gilson R, et al. Pre-exposure prophylaxis to prevent the acquisition of HIV-1 infection (PROUD): Effectiveness results from the pilot phase of a pragmatic open-label randomised trial. The Lancet. 2016;387(10013).

28. Huang ST, Huang JH, Chu JH. Health Beliefs Linked to HIV Pre-Exposure Prophylaxis Use Intention among Young Men Who Have Sex with Men in Taiwan. AIDS Patient Care STDS. 2021;35(12).

29. Pilgrim N, Jani N, Mathur S, Kahabuka C, Saria V, Makyao N, et al. Provider perspectives on PrEP for adolescent girls and young women in Tanzania: The role of provider biases and quality of care. PLoS One. 2018;13(4):1–21.

30. Kayesu I, Mayanja Y, Nakirijja C, Machira YW, Price M, Seeley J, et al. Uptake of and adherence to oral pre-exposure prophylaxis among adolescent girls and young women at high risk of HIV-infection in Kampala, Uganda: A qualitative study of experiences, facilitators and barriers. BMC Womens Health. 2022;22(1).

31. Were D, Musau A, Mugambi M, Plotkin M, Kabue M, Manguro G, et al. An implementation model for scaling up oral pre-exposure prophylaxis in Kenya: Jilinde project. Gates Open Res. 2021;5.

32. Martinez-Cajas JL, Torres J, Mueses HF, Plazas PC, Arrivillaga M, Gomez SA, et al. Applying implementation science frameworks to identify factors that influence the intention of healthcare providers to offer PrEP care and advocate for PrEP in HIV clinics in Colombia: a cross-sectional study. Implement Sci Commun. 2022;3(1).

APPENDICES

Appendix I: Form of Informed Consent for Participation

MUHIMBILI UNIVERSITY OF HEALTH AND ALLIED SCIENCES

DIRECTORATE OF RESEARCH AND PUBLICATIONS.

ID-NO ☐☐☐

Introduction

Greetings! My name is **Beatrice Octavian,** a postgraduate student from MUHAS**. I** am working on the research study aiming at evaluating the implementation of oral pre-exposure prophylaxis (PrEP) service framework in Kinondoni Municipal Council, Tanzania

Purpose of the study

The purpose of this study is collecting information of PrEP implementation among key population in Kinondoni municipal council. You are being asked to participate in this study based on your knowledge and experiences that may be important to this study.

What Participation Involves

Your participation on the study will involve the following:

You will have an interview with a trained interviewer and answer questions about what factors you think are affecting the implementation of PrEP among key population and we will also hear your recommendations on what should be done to successful implement. The interviewer will be recording your responses during the interview.

No personal identifiers will be collected, except your age, level of education, marital status, religion, and your current occupation.

Confidentiality: The information collected from you will observe a high level of confidentiality. Only people working on this research study will have access to the information. We will not put your name or other identifying information on the records of the information you provide.

Risks for participating in this study

You will be asked questions about PrEP service delivery and factors affecting with PrEP implementation. Some questions could potentially make you feel uncomfortable. You may refuse to answer any question and may stop the interview at any time.

Rights to Withdraw and Alternatives

Taking part in this study is completely your choice. If you choose not to participate in the study or if you decide to stop participating in the study, you will not get any harm. You can stop participating in this study at any time, even if you have already given your consent. Refusal to participate or withdrawal from the study will not involve penalty or loss of any benefits to which you are otherwise entitled.

Benefits for participating in this study

The information you provide will help to increase our understanding on factors associated with PrEP implementation and advice on ways to improve. Will also help us understand the ways we can improve the PrEP implementation.

In Case of Injury

We do not anticipate that any harm will occur to you or your family as a result of your participation in this study.

Who to contact

If you ever have questions about this study, you should contact the study Coordinator Beatrice Octavian**,** Muhimbili University of Health, and Allied Sciences (MUHAS), P.O. Box 65001, Dar es Salaam (Tel. no. 0715280771). If you ever have questions about your rights as a participant, you may call **the Chairman of the College Research and Publications Committee,** P. O. Box 65001, Dar es Salaam. Tel: 2150302-6.

Signature

Do you agree?

Participant Agrees [__] Participants disagree [__]

Appendix II: Informed Consent Swahili Version

MUHIMBILI UNIVERSITY OF HEALTH AND ALLIED SCIENCES

DIRECTORATE OF RESEARCH AND PUBLICATIONS.

FOMU YA RIDHAA

Namba ya Utambulisho ☐☐☐

Utangulizi

Salamu! Jina langu ni Beatrice Octavian, mwanafunzi wa shahada ya uzamili kutoka MUHAS. Ninafanyia kazi utafiti unaolenga kutathmini utekelezaji wa mfumo wa huduma ya oral pre-exposure prophylaxis (PrEP) katika Halmashauri ya Manispaa ya Kinondoni, Tanzania.

Madhumuni ya utafiti

Madhumuni ya utafiti huu ni kukusanya taarifa za utekelezaji wa PrEP miongoni mwa watu muhimu katika halmashauri ya manispaa ya Kinondoni. Unaombwa kushiriki katika utafiti huu kulingana na ujuzi wako na uzoefu ambao unaweza kuwa muhimu kwa utafiti huu.

Ushiriki Unahusisha Nini

Ushiriki wako kwenye utafiti utahusisha yafuatayo:

Utakuwa na mahojiano na mhoji aliyefunzwa na kujibu maswali kuhusu ni mambo gani unafikiri yanaathiri utekelezaji wa PrEP miongoni mwa watu muhimu na pia tutasikia mapendekezo yako kuhusu nini kifanyike ili utekelezwe kwa mafanikio. Mhojiwa atakuwa akirekodi majibu yako wakati wa mahojiano.

Hakuna vitambulisho vya kibinafsi vitakusanywa, isipokuwa umri wako, kiwango cha elimu, hali ya ndoa, dini, na kazi yako ya sasa.

Usiri: Taarifa zilizokusanywa kutoka kwako zitazingatia kiwango cha juu cha usiri. Ni watu wanaofanya kazi katika utafiti huu pekee ndio wataweza kupata taarifa. Hatutaweka jina lako au taarifa nyingine ya kutambua kwenye rekodi za maelezo unayotoa.

Hatari za kushiriki katika utafiti huu.

Utaulizwa maswali kuhusu utoaji wa huduma ya PrEP na mambo yanayoathiri utekelezaji wa PrEP. Baadhi ya maswali yanaweza kukufanya ukose raha. Unaweza kukataa kujibu swali lolote na unaweza kusimamisha mahojiano wakati wowote.

Haki za Kutoa na Njia Mbadala

Kushiriki katika utafiti huu ni chaguo lako kabisa. Ukichagua kutoshiriki katika utafiti au ukiamua kuacha kushiriki katika utafiti, hutapata madhara yoyote. Unaweza kuacha kushiriki katika utafiti huu wakati wowote, hata kama tayari umetoa kibali chako. Kukataa kushiriki au kujitoa kwenye utafiti hakutahusisha adhabu au hasara ya manufaa yoyote ambayo unastahiki kuyapata.

Faida za kushiriki katika utafiti huu.

Taarifa utakazotoa zitasaidia kuongeza uelewa wetu kuhusu mambo yanayohusiana na utekelezaji wa PrEP na ushauri kuhusu njia za kuboresha. Pia itatusaidia kuelewa njia tunazoweza kuboresha utekelezaji wa PrEP.

Katika kesi ya jeraha

Hatutarajii kwamba madhara yoyote yatatokea kwako au kwa familia yako kutokana na ushiriki wako katika utafiti huu.

Nani wa kuwasiliana naye.

Ukiwahi kuwa na maswali kuhusu utafiti huu, unapaswa kuwasiliana na Mratibu wa utafiti Beatrice Octavian, Chuo Kikuu cha Afya cha Muhimbili, na Sayansi Shirikishi (MUHAS), P.O. Box 65001, Dar es Salaam (Tel. no. 0715280771). Ukiwahi kuwa na maswali kuhusu haki zako kama mshiriki, unaweza kumpigia simu Mwenyekiti wa Kamati ya Utafiti na Machapisho ya Chuo, P. O. Box 65001, Dar es Salaam. Simu: 2150302-6.

Sahihi

Unakubali?

Mshiriki Anakubali [__]

Washiriki hawakubaliani **[__]**

Mimi _____ nimesoma/nimeielewa hii fomu, maswali yangu yamejibiwa. Nakubali kushiriki katika utafiti huu.

Sahihi ya mshiriki _____

Sahihi ya shahidi (kama hawezi kusoma na kuandika) _____

Sahihi ya mtafiti muandamizi _____

Tarehe ya makubaliano _____

Appendix III: Key informant interview (KII) guide for PrEP health care workers.

1. Pre–exposure prophylaxis (PrEP) is recommended by the World Health Organization (WHO) as effective preventive strategy to reduce HIV infections among key and vulnerable populations. **How is identification of high-risk PrEP candidates and PrEP eligibility assessment performed in this health care facility?**

Probe on:

- ⇓ What do this facility refer to define and identify high risk HIV candidates?
- ⇓ Who are Personnel involving in high-risk candidate identification?
- ⇓ What Criteria used/ observed to assess PrEP eligibility in the facility?
- ⇓ Where and when is high risk candidate identification performed
- ⇓ Where and when is PrEP eligibility assessment performed

2. Initiating PrEP is a considered as critical issue in PrEP service delivery which dictates PrEP uptake and PrEP adherence among eligible candidates. **Exactly how initiation of PrEP and PrEP adherence monitoring is implemented your settings.**

Probe on

- ⇓ What are the considerations before initiating PrEP to eligible client?
- ⇓ How long it takes to initiate PrEP to eligible client.
- ⇓ Who are involved in initiation of PrEP to eligible client?
- ⇓ In what manner is PrEP adherence monitored once PrEP is successfully initiated?

3. Continuation of PrEP and discontinuations of PrEP are two imperative and sensitive issue which defines effectiveness of the prevention accorded. **Describe the process of continuation of PrEP and discontinuations of PrEP at in your setting.**

Probe on

- ⇓ Exactly how continuation of PrEP reflects PrEP adherence monitoring outcomes according to PrEP service delivery framework.
- ⇓ By what means discontinuations of PrEP reflect PrEP service delivery framework

4. PrEP acceptability is a critical aspect of effective implementation of PrEP to achieve intended objective. What is your experience on PrEP acceptability among potential PrEP users and general public?

Probe on

- ⇓ How is their willingness and interest to use PrEP? How do they perceive PrEP? Do this differ from your colleague's staff attitude towards advocating use of PrEP and intention to prescribe PrEP? why, how about your intention to prescribe PrEP. When? Where? and why.
- ⇓ What mechanism are employed by this facility to disseminate information on PrEP.

5. What are key barriers for effective PrEP delivery in your settings? Any experience on misconceptions on PrEP from potential target PrEP population? how about similar experience from your colleague healthcare providers? How about stigma on PrEP users by both community /family and healthcare providers.

NOTE: Towards the end of our conversion, you have one minute to comment/add on what we have discussed above (if any)

Thank you for your time and co-operation.

Appendix IV: Structured questions for Key and Vulnerable Populations (KPS)

Introduction

Hello my name is Beatrice Octavian from Muhimbili University of Health and Allied Science. I am conducting a study of PrEP in KMC to generate information that can be used to improve service scale up and efficient provision. I believe that you are among few potential health care users who can voluntarily provide opinions on HIV services in KMC. Thus, I would like to know your experience on provision of PrEP in KMC. I will start seeking your consent for participation and then if you voluntarily agree to participate, I will ask you a few questions. [Read a consent form]

A: Demographic information of respondent

1. Sex of respondent
   - [1]Male ( )
   - [2]Female ( )
2. What is your age? (In years) ----------
3. What is your level of education?
   - [1] No formal education ( )
   - [2] Primary education ( )
   - [3] Secondary education ( )
   - [4] Post-secondary education ( )
4. What is your marital status?
   - [1] Single ( )
   - [2] Married ( )
   - [3] Widow ( )
   - [4] Divorced ( )
5. What is your current residence arrangement?
   - [1] Reside at home with parents ( )
   - [2] Reside with my age met friends ( )
   - [3] Reside alone in my house/ lent room ( )
   - [4] Reside in my relative family ( )

6. What is your employment status?

[1] Not employed ( )

[2] Self employee ( )

[3] Public employee ( )

[4] Private / NGOs employee ( )

7. How many children do you have?

[1] Non ( )

[2] 1 ( )

[3] 2 – 4 ( )

[4]5 + ( )

8. Behavioral characteristics (HIV test)

[1] YES ( )

[2]NO ( )

9. Perceived lifetime risk of HIV acquisition

[1] No risk ( )

[2] Low risk ( )

[3] High risk ( )

[4] Don't know ( )

B: PrEP acceptability and barriers to PrEP uptake

10. Had you ever heard PrEP as a method of preventing HIV before today?

[1] YES ( )

[2]NO ( )

11. Had you ever used PrEP as a method of preventing HIV?

[1]YES ( )

[2]NO ( )

12. What is your level of PrEP acceptability as a method of preventing HIV?

[1] Low ( )

[2] Medium ( )

[3] High ( )

13. Are you willing to accept and take a pill every day?

[1] YES ( )

[2] NO ( )

14. What you did not like today or in previous visit on PrEP use

[1] Health care providers stigma ( )

[2] Receiving PrEP in a health facility ( )

[3] Long waiting time

[4] Low attention/ poor customer care from providers

[5] Environment is which PrEP service was provided

[6] Missing PrEP (PrEP stoke out) ( )

[7]Other (please specify) ----------

15. What factors would affect your ability to accept and take PrEP on a daily basis?

[1] Negative or insufficient social support ( )

[2] Fear of side effect ( )

[3] Fear to be labeled as having HIV infection ( )

[4] Discriminatory behavior of sexual partners ( )

[5] Discriminatory behavior of community ( )

[6] Gender norms in sexual relationship ( )

[7] Forgetfulness ( )

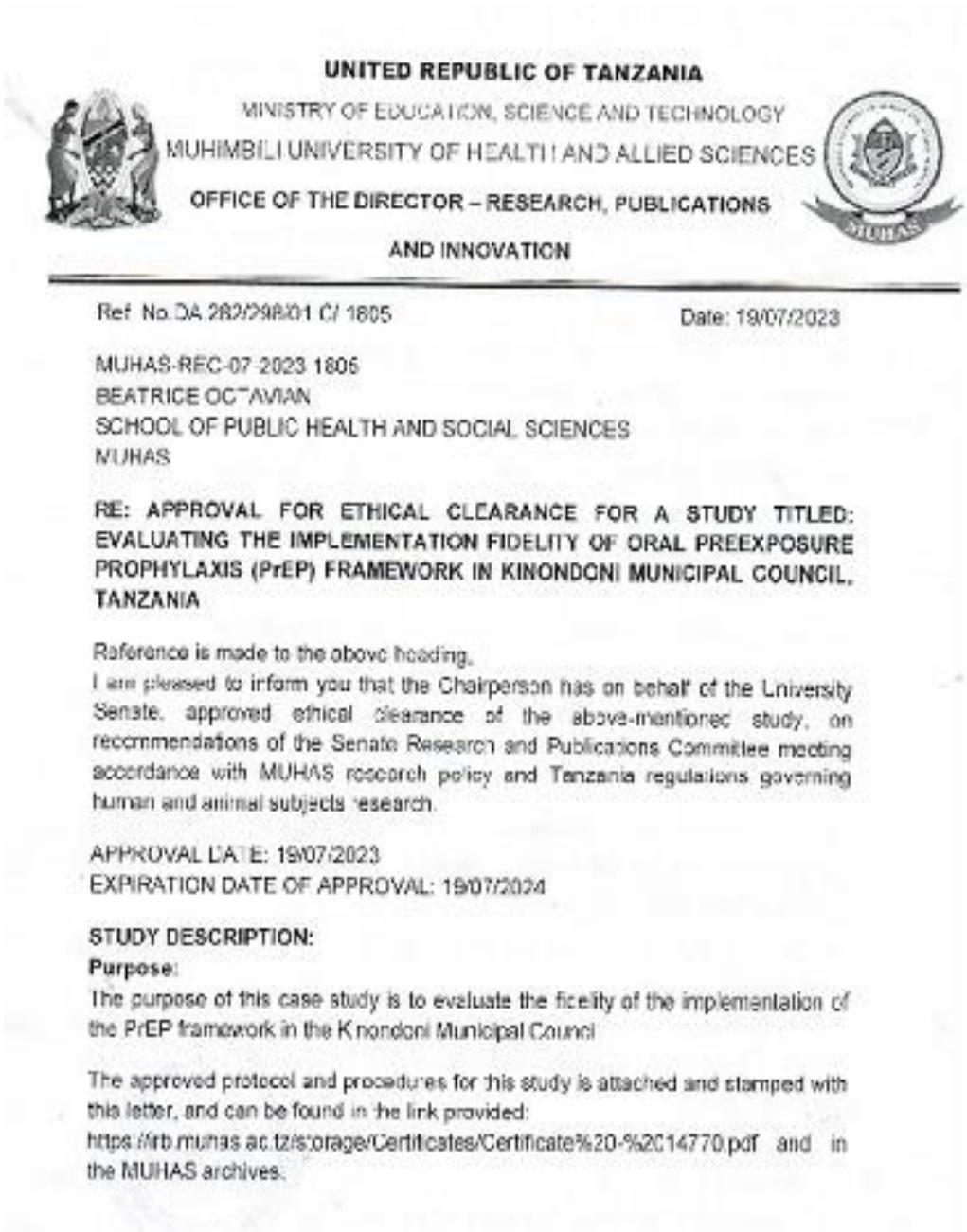
[8] Low perception of HIV risk ( )

[9] Confusion about ARV as prevention ( )

[10] Other (please specify) ----------

Thank you for your time and co-operation.

Appendix V: Approval for 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/ 1805 Date: 19/07/2023

MUHAS-REC-07-2023-1805
BEATRICE OCTAVIAN
SCHOOL OF PUBLIC HEALTH AND SOCIAL SCIENCES
MUHAS

RE: APPROVAL FOR ETHICAL CLEARANCE FOR A STUDY TITLED: EVALUATING THE IMPLEMENTATION FIDELITY OF ORAL PREEXPOSURE PROPHYLAXIS (PrEP) FRAMEWORK IN KINONDONI MUNICIPAL COUNCIL, TANZANIA

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

APPROVAL DATE: 19/07/2023
EXPIRATION DATE OF APPROVAL: 19/07/2024

STUDY DESCRIPTION:
Purpose:
The purpose of this case study is to evaluate the ficelity of the implementation of the PrEP framework in the Kinondoni Municipal Council

The approved protocol and procedures for this study is attached and stamped with this letter, and can be found in the link provided:
https://rb.muhas.ac.tz/storage/Certificates/Certificate%20-%2014770.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 Salim Masoud,

Chairperson, MUHAS Research and Ethics Committee

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

Appendix VI: 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.839/2020

29TH August, 2023

The Regional Administrative Secretary,
P.O. Box 5429,
DAR ES SALAAM

– Received 5/9/23

Re: INTRODUCTION LETTER

The bearer of this letter is Beatrice Octavian (HD/MUH/T.839/2020), a student at Muhimbili University of Health and Allied Sciences (MUHAS) pursuing **MSc. Project Management Monitoring Evaluation in Health.**

As part of her studies she intends to do a study titled: **"Evaluating the Implementation Fidelity of Oral Preexposure Prophylaxis (PreEP) Framework in Kinondoni Council, Tanzania"**

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

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

We thank you for your cooperation.

Ms. Victoria Mwanilwa
For: DIRECTOR, POSTGRADUATE STUDIES

c.c. Beatrice Octavian

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 VII: Data collection approval

JAMHURI YA MUUNGANO WA TANZANIA

OFISI YA RAIS,
TAWALA ZA MIKOA NA SERIKALI ZA MITAA

HALMASHAURI YA MANISPAA YA KINONDONI

Unapojibu tafadhali taja:

Kumb. No. HB.345/520/01

22 Novemba, 2023

MGANGA MFAWIDHI,
Zahanati ya Kijitonyama,
Zahanati ya Mwenge,
Kituo cha Afya Bunju,
Zahanati ya Kigogo,
Zahanati ya Hananasif

YAH: KIBALI CHA KUFANYA UTAFITI KATIKA VITUO VYA KUTOLEA HUDUMA ZA AFYA KATIKA MANISPAA YA KINONDONI

Tafadhali rejea somo tajwa hapo juu.

2. Ofisi ya Mganga Mkuu wa Manispaa ya Kinondoni inapenda kumtambulisha kwako mtafiti ambaye amepewa kibali cha kufanya utafiti kuhusu **"Evaluating the implementation fidelity of Oral peer pocxposure prophylaxis (pre) Framework in Kinndon Council Tanzania".**

3. Utafiti huo utafanyika kuanzia **10/11/2023** hadi **30/12/2024.**

4. Kwa barua hii unaombwa kutoa ushirikiano kwa mtafiti huyo ili kuwawezesha kukamilisha jukumu hilo kikamilifu na kwa wakati.

Nakutakia kazi njema.

Bertha Matiya
Kny: MGANGA MKUU WA MANISPAA

KUMBUKUMBU MKUU WA MANISPAA
HALMASHAURI YA MANISPAA YA KINONDONI

Barua zote zitumwe kwa Mkurugenzi wa Manispaa Manispaa ya Kinondoni, S.L.P. 31900, 2 Barabara ya Morogoro, 14040 Dar es Salaam,
Unaweza pia kuwasiliana nasi kwa Simu: +255 2150172, Nukushi: 2172648, Barua pepe – info@kinondonimc.go.tz

Appendix VII: Digital Receipt

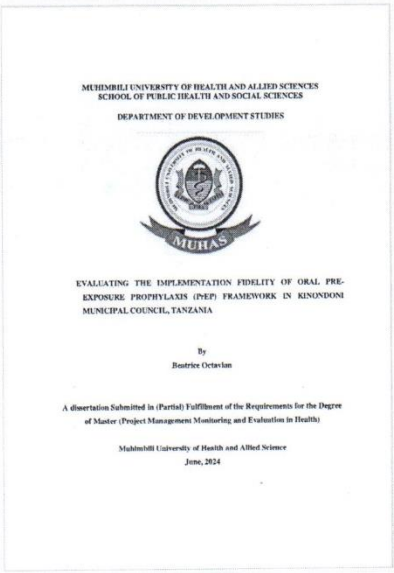
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MUHIMBILI UNIVERSITY OF HEALTH AND ALLIED SCIENCES
SCHOOL OF PUBLIC HEALTH AND SOCIAL SCIENCES

DEPARTMENT OF DEVELOPMENT STUDIES

EVALUATING THE IMPLEMENTATION FIDELITY OF ORAL PRE-EXPOSURE PROPHYLAXIS (PrEP) FRAMEWORK IN KINONDONI MUNICIPAL COUNCIL, TANZANIA

By
Beatrice Octavian

A dissertation Submitted in (Partial) Fulfillment of the Requirements for the Degree of Master (Project Management Monitoring and Evaluation in Health)

Muhimbili University of Health and Allied Science
June, 2024

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11/07/2024

Appendix VIII: Plagiarism Report

Beatrice Octavian Report 2024.pdf

ORIGINALITY REPORT

22%	19%	7%	12%
SIMILARITY INDEX	INTERNET SOURCES	PUBLICATIONS	STUDENT PAPERS

PRIMARY SOURCES

1	Submitted to Muhimbili University of Health and Allied Sciences Student Paper	6%
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11/07/2024