FACTORS ASSOCIATED WITH COMPLIANCE TO ANTENATAL HIV RE-TESTING AMONG POSTPARTUM WOMEN AT BUGURUNI HEALTH CENTRE IN ILALA MUNICIPAL COUNCIL, DAR ES SALAAM, TANZANIA.

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FACTORS ASSOCIATED WITH COMPLIANCE TO ANTENATAL HIV RE-TESTING AMONG POSTPARTUM WOMEN AT BUGURUNI HEALTH CENTRE IN ILALA MUNICIPAL COUNCIL, DAR ES SALAAM, TANZANIA.

By

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Dissertation Submitted in (Partial) Fulfilment of the Requirement for Degree of Master of Science in Midwifery and Women's Health of Muhimbili University of Health and Allied Sciences

October, 2024

CERTIFICATION

The undersigned certifies that she has read and hereby recommends for acceptance by the Muhimbili University of Health and Allied Sciences a dissertation entitled **"Factors Associated with Compliance to Antenatal HIV re-testing among Postpartum Women at Buguruni Health Centre in Ilala Municipal Council, Dar es Salaam, Tanzania"** in partial fulfillment of the requirements for the degree of Master of Science in Midwifery and Women's Health nursing of Muhimbili University of Health and Allied Sciences.

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(Supervisor)

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Date

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Mr. Baraka Morris

(Co-Supervisor)

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Date

DECLARATION AND COPYRIGHT.

I, **Mary Matunda,** declare that this dissertation/thesis is my original work and it has not been presented and will not be presented to any other University for a similar or any other degree award.

Signature ……Date……

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DEDICATION

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ABBREVIATIONS

AIDS	Acquired Immune Deficiency Syndrome
AOR	Adjusted Odds Ratio
ART	Antiretroviral Therapy
ARV	Antiretroviral
COR	Crude Odds Ratio
DMO	Districts Medical Officer
GSES	Generalized Self Efficacy Scale
HIV	Human Immunodeficiency Virus
IRB	Institute Review Board
MOI	Medical Officer In-charge
MSPSS	Multidimensional Scale of Perceived Social Support
MTCT	Mother-to-child transmission
MUHAS	Muhimbili University of Health and Allied Sciences
PMTCT	Prevention of Mother-to-child transmission
UNAIDS	United Nations Programme on HIV/AIDS
WHO	World Health Organization

DEFINITION OF TERMS

Acquired Immunodeficiency Syndrome (AIDS): is a late stage of HIV infection. It is a complex medical condition that weakens the immune system, making individuals highly susceptible to opportunistic infections, cancers, and other serious illnesses.

Antenatal care (ANC): refers to the healthcare services and support provided to pregnant individuals before childbirth. It involves a series of medical check-ups, screenings (including HIV testing), and educational interventions to ensure the well-being of both the pregnant individual and the developing fetus.

Antiretroviral Therapy (ART): Antiretroviral medications are drugs that hinder specific steps in the replication cycle of a virus, thereby preventing the virus from replicating and infecting immune system cells. These medications are commonly taken as a once-daily pill and may consist of a combination of different drugs.

Compliance: Compliance in HIV re-testing, particularly during pregnancy and postpartum, refers to the extent to which individuals adhere to the recommended guidelines and protocols for HIV testing. In the context of this study, compliance involves following the prescribed testing schedule and procedures to ensure timely and accurate HIV screening.

Human Immunodeficiency Virus (HIV): A virus that specifically attacks the body's immune system is known as HIV. If left untreated, HIV can lead to AIDS (acquired immunodeficiency syndrome). The virus can be transmitted through various bodily fluids, including blood, semen, vaginal fluids, and breast milk when one person comes into contact with another.

HIV Testing: refers to the process of detecting the presence of HIV in an individual's body. It is an important tool for diagnosing HIV infection, allowing for early detection, timely treatment, and prevention of further transmission.

HIV re-testing refers to the process of conducting additional HIV tests on an individual who has previously undergone HIV testing. Here are some common scenarios where HIV re-testing may be recommended. It's important to note that the frequency and circumstances for HIV re-testing can vary based on individual risk

factors, guidelines from healthcare professionals, and local public health recommendations. Some healthcare protocols recommend periodic HIV testing as part of routine screenings, especially in high-risk populations or areas with a higher prevalence of HIV.

Postnatal care (PNC): Also known as Postpartum care (PPC), refers to the healthcare and support provided to mothers and their newborn babies in the immediate weeks and months following childbirth. It focuses on the physical, emotional, and social well-being of the mother and promotes a healthy transition into parenthood.

Prevention of mother-to-child transmission (PMTCT): Refers to a series of interventions and strategies aimed at reducing the transmission of HIV from an HIV-positive mother to her child during pregnancy, childbirth, and breastfeeding. PMTCT programs have been highly successful in reducing the number of new HIV infections among infants.

Postpartum period: Is the period after delivery of conceptus when maternal physiological and anatomical changes return to the nonpregnant state**.**

ABSTRACT

Introduction: Human Immune Virus (HIV) re-testing at birth has the potential to decrease rates of mother-to-child transmission by identifying mothers who seroconvert after having tested negative in early pregnancy. Current guidelines recommend the inclusion of HIV testing in routine screening tests for all pregnant women. For this reason, antenatal care (ANC) represents a vital component of efforts to prevent mother-to-child transmission (PMTCT) of HIV. Despite being a national policy in Tanzania, the available data suggest that the implementation rate is low.

Aim: The purpose of this study is to assess factors associated with antenatal HIV re-testing compliance among postpartum women in Ilala Municipality, Tanzania.

Methods: A quantitative approach employed an analytical cross-sectional study design for 308 postpartum women who were selected using a systematic sampling method. Data were collected by using a structured questionnaire and analyzed using SPSS version 25 Descriptive statistics, including mean, standard deviation. Bivariate and multivariate logistic regression analysis was performed to identify potential predictors among the variables.

Result: Of 308, women with a mean age of 26.3(SD±5.3) who were surveyed, (203, 66.6%) complied with HIV retesting during pregnancy. The study found that women aged 25 and above, with secondary to college education, and primipara were more likely to undergo HIV re-testing. Attending four or more ANC visits, being informed about re-testing at 32-36 weeks, having social support, confidence in re-testing with a partner, and lack of perceived stigma contributed to higher re-testing odds.

Conclusion and Recommendations: The study came to the conclusion that factors that greatly improve compliance with HIV retesting include age, education, primiparity, more ANC visits, timely information, social support, partner confidence, and less stigma. Therefore, give priority to programs that provide social support and education in order to improve compliance with HIV retesting, particularly for older adults and first-time moms who have more antenatal care visits.

Keywords: Compliance, HIV testing, antenatal, postnatal women, Tanzania

CHAPTER ONE
1.0 INTRODUCTION

1.1 Background:

Mother-to-child transmission (MTCT) of HIV remains a global health concern, with an estimated 1.3 million pregnant women living with HIV in 2022 (1). In sub-Saharan Africa, HIV prevalence among pregnant women remains a critical public health issue, accounting for the highest rates ranging from 10% to 30% in certain countries (2). Tanzania, a high-burden country, reports an HIV prevalence rate of approximately 6% among pregnant women, with regional variations that see rates exceeding 10% in some areas (3–7). This contrasts sharply with low-prevalence regions such as North America and Western Europe, where HIV prevalence among pregnant women is generally below 1% (8).

There is a need for comprehensive antenatal care (ANC) services, including regular HIV testing and re-testing. This identifies new infections during pregnancy, ensure timely interventions to prevent mother-to-child transmission, and reduce new infections. Acute HIV infection that is usually accompanied with high viral loads, poses a significant risk of transmission during pregnancy, delivery, and breastfeeding (9,10). Pregnant women who initially test negative for HIV may undergo seroconversion during the perinatal period, contributing to rising MTCT cases (11). While high-income countries have made significant progress in preventing MTCT, lower- and middle-income countries, including Tanzania, encounters barriers to antenatal HIV re-testing compliance (12).

Compliance for HIV retesting is critical for achieving the goal of reducing new infections and improving health outcomes. The UNAIDS emphasizes the importance of retesting individuals with high exposure risk, with a target of at least 95% HIV testing coverage (14). However, compliance remains varied across regions, with sub-Saharan Africa showing the highest burden of new HIV cases (2,7,13). As of 2023, many countries are

still far from this global target, particularly in underserved populations where barriers like stigma and limited access to services persist (15).

Although initial HIV testing rates among pregnant women in Tanzania are relatively high, re-testing at 32-36 weeks remains below optimal levels (16,17). This re-testing is crucial for detecting seroconversion, where women who initially test negative for HIV may acquire the virus later in pregnancy, increasing the risk of mother-to-child transmission (MTCT) (18). Ensuring re-testing at this stage allows for timely interventions, such as antiretroviral therapy (ART), to protect both mother and child. Tanzania's efforts to increase re-testing compliance align with the UNAIDS 95-95-95 targets, aimed at ensuring that 95% of people living with HIV know their status, 95% receive treatment, and 95% achieve viral suppression (15,17). Expanding re-testing initiatives, addressing barriers like stigma and healthcare access, and improving education within antenatal care (ANC) are critical steps to preventing MTCT and improving health outcomes (5,16).

Current strategies integrate HIV testing into antenatal care, with testing recommended at the first ANC visit, in the third trimester, or at birth. Despite progress, challenges remain in achieving universal compliance (19–21). This includes psychosocial factors such as perceived social support, stigma, self-efficacy, fear, and attitudes toward antenatal HIV testing, (22). Along with predisposing factors like education, marital status, employment, income, distance to healthcare, transportation, and health insurance, collectively influence the uptake of antenatal repeat HIV testing (23,24). These multifaceted factors contribute to the vulnerability of pregnant women to seroconversion and subsequent MTCT.

The existing literature highlights a gap in understanding the specific barriers and enablers affecting the choice of expectant mothers to repeat HIV testing, particularly in Tanzanian context (22,25). Limited research exists on this topic, hindering the development of

targeted strategies to promote compliance among this vulnerable population. This study aims to address the gap in knowledge by investigating the factors associated with HIV re-testing among pregnant women at Buguruni Health Centre in Tanzania. By identifying and understanding these factors, the research seeks to contribute to the development of a multifaceted intervention that can enhance compliance with HIV re-testing policies not only in Tanzania but also in similar environment. The anticipated findings informed evidence-based strategies to improve the effectiveness of antenatal HIV testing programs and mitigate the risk of MTCT.

1.2 Problem Statement

Non-compliance of HIV re-testing increases the risk of undetected seroconversion, leading to higher mother-to-child transmission rates and worsening maternal and child health outcomes. Nevertheless, a lack of compliance to HIV testing schedules during antenatal care and at birth may result in missed opportunities for early diagnosis, treatment, and prevention of HIV transmission (28). The consequences of non-compliance are dire, encompassing delayed diagnosis, inadequate treatment, and an increased risk of HIV transmission to infants during childbirth or breastfeeding, thereby exacerbating the public health burden (29). Then, antenatal HIV testing and re-testing constitute crucial components in averting mother-to-child HIV transmission and ensuring proper care, treatment, and support for HIV-positive women and their offspring (27).

The 2016-2017 Tanzania HIV Impact Survey (THIS) reported a national HIV prevalence of 4.7% among adults aged 15-49, with 3.1% among males and 6.2% among females (20,26). Despite these concerning figures, the survey revealed that only 67% of pregnant women received HIV testing and counseling during their most recent pregnancy, highlighting a critical gap in compliance with re-testing protocols. Factors contributing to non-compliance with antenatal HIV re-testing are multifaceted and may include issues related to healthcare access, awareness, socio-economic disparities, and educational levels.

Despite the government efforts including free service provided on HIV testing and HIV re-testing into antenatal care and enhancing public health campaigns to increase the compliance to PMTCT services, the compliance with antenatal HIV re-testing at Buguruni Health Centre in Dar es Salaam, remains inadequately documented. This underscores the urgent need to strengthen HIV re-testing efforts to prevent mother-to-child transmission and improve health outcomes (20). Existing interventions may not sufficiently capture the unique factors influencing compliance in this specific setting, necessitating a targeted and context-specific approach. The current literature lacks a comprehensive understanding of the magnitude and factors associated with compliance to antenatal HIV re-testing among postpartum women attending Buguruni Health Centre. This study seeks to address the existing gaps and contribute valuable insights to inform targeted strategies for improving compliance with antenatal HIV re-testing in Buguruni Health Centre, Dar es Salaam, Tanzania.

1.3 Rationale of the study

This study has been focused on address the non-compliance with antenatal HIV re-testing, which poses significant risks for mother-to-child transmission and impacts maternal and child health outcomes. The findings from this study will add to the existing body of knowledge on factors associated with compliance to antenatal HIV re-testing among women attending antenatal clinics. This information can inform policymakers, healthcare providers, and program managers about the current gaps and enable them to design targeted interventions and strategies to increase testing rates and improve health outcomes for women and their infants.

In terms of policy, the study may offer insights that can inform the formulation and enhancement of healthcare policies related to antenatal care and HIV testing in Tanzania. Policymakers can use the identified factors associated with compliance to guide the implementation of strategies aimed at increasing re-testing rates. For instance, the development of guidelines emphasizing routine re-testing during antenatal care visits and

ensuring the availability of testing facilities can be instrumental. Additionally, policies promoting comprehensive sexual education and addressing societal stigmas associated with HIV can contribute to a more supportive environment, encouraging women to willingly comply with re-testing protocols.

1.4 Research questions

1.4.1 Main research question

What are the factors associated with compliance to antenatal HIV re-testing among postpartum women at Buguruni Health Centre, Tanzania?

1.4.2 Specific research questions

i. What is the level of compliance **with** antenatal HIV re-testing among postpartum women attending Buguruni Health Centre?

ii. What are the factors associated with compliance to antenatal HIV re-testing among postpartum women attending Buguruni Health Centre?

1.5 Research objectives

1.5.1 Broad objective

To examine the factors associated with compliance to antenatal HIV re-testing among postpartum women at Buguruni Health Centre, Tanzania.

1.5.2 The specific objectives

i. To assess **the level of** compliance **with** antenatal HIV re-testing among postpartum women at Buguruni Health Centre.

ii. **To identify** the factors associated with compliance to antenatal HIV re-testing among postpartum women at Buguruni Health Centre.

1.6 Conceptual framework

The conceptual framework for this study was designed to elucidate the factors associated with compliance with antenatal HIV re-testing among postpartum women at Buguruni Health Centre in Ilala Municipality, Tanzania. To achieve a comprehensive understanding, this framework integrated key components from Anderson's Behavioral Model of Health Care Use, tailoring them to the specific objectives of the study. Anderson's Behavioral Model served as the foundational framework, emphasizing predisposing and psychosocial factors in shaping healthcare utilization. By incorporating this model with the study's objectives, the framework aimed to demonstrate the relationship between factors influencing compliance with antenatal HIV re-testing among postpartum women.

Anderson's Behavioral Model Integration: The foundational framework, Anderson's Behavioral Model, emphasizes predisposing and psychosocial factors in shaping healthcare utilization. Aligned with the study's objectives, this model illustrated the relationships influencing compliance with antenatal HIV re-testing among postpartum women (30,31).

Predisposing Factors:

Socio-demographic Characteristics: The relevance of socio-demographic factors such as age, education, and marital status in healthcare utilization is crucial. For instance, the impact of these factors on compliance with antenatal HIV re-testing needs exploration to understand how demographic variables influence health-seeking behavior (30).

Knowledge and Attitudes: Understanding the influence of women's knowledge and attitudes towards antenatal HIV re-testing on compliance is essential. There is a direct association between knowledge, attitudes, and health behavior, and this linkage must be explored to provide comprehensive insights (31).

Healthcare Access: Emphasizing the availability and accessibility of healthcare services, particularly the proximity of health care, plays a pivotal role in compliance. Exploring the relationship between healthcare access and compliance to antenatal HIV re-testing is crucial for understanding the impact of service availability on women's decisions.

Socioeconomic Status: Investigating the role of socioeconomic factors, including income and employment, is necessary to discern how these factors enable or hinder compliance. Recognizing the socioeconomic determinants of health behavior provides valuable insights into potential barriers faced by postpartum women.

Perceived Need for Re-testing: Understanding women's perceptions regarding the necessity of antenatal HIV re-testing is critical. This variable explores the subjective understanding and importance attributed to re-testing, influencing compliance decisions.

Previous Health Experience: Considering the influence of past experiences with healthcare services, including antenatal care, on compliance is crucial. Exploring how previous health experiences shape women's attitudes and behaviors towards antenatal HIV re-testing enhances the contextual understanding of compliance factors.

Psychosocial Factors:

Perceived Stigma and Discrimination: Examining the impact of HIV-associated stigma on compliance to re-testing is vital. Understanding how stigma affects women's decisions and behaviors in the context of antenatal HIV re-testing provides valuable information for intervention strategies.

Social Support: Recognizing the influence of social support networks on women's decision to comply with antenatal HIV re-testing is crucial. Exploring the role of social support in encouraging or discouraging compliance enhances our understanding of the interpersonal dynamics shaping health behavior.

This conceptual framework, drawing upon Anderson's Behavioral Model and specific elements relevant to the study, provides a foundation for the multifaceted factors

affecting compliance to antenatal HIV re-testing among postpartum women at Buguruni Health Centre in Ilala Municipality, Tanzania.

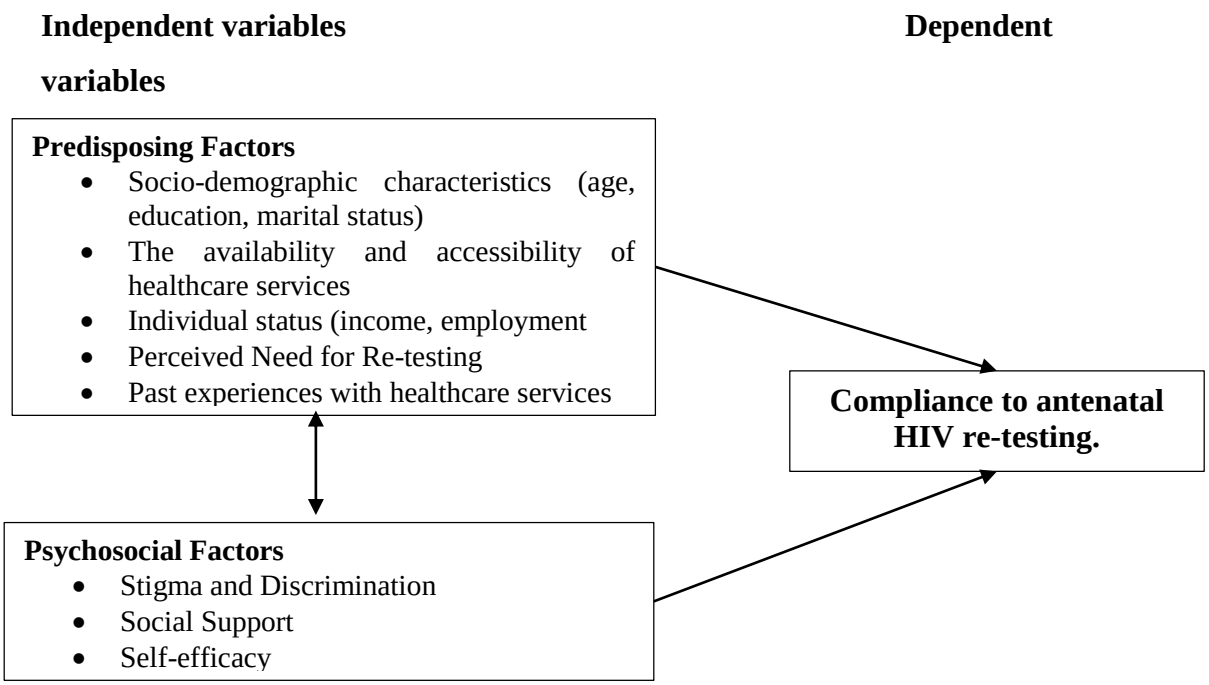


Figure 1: Conceptual framework showing the relationship between study variables

CHAPTER TWO

2.0 LITERATURE REVIEW

A literature search for this study was conducted through reputable search engines such as PubMed, Google Scholar, and Jane. The key terms utilized included those relevant to antenatal HIV re-testing, postpartum women, and factors associated with compliance. The review is structured into three sub-sections based on the study objectives: Level of compliance to antenatal HIV re-testing among postpartum women, predisposing factors associated with compliance, and psychosocial factors associated with compliance.

2.1 Level of Compliance to Antenatal HIV Re-testing Among Postpartum Women

In high-income countries, a study conducted across four locations in the United States aimed to identify barriers to universal prenatal HIV testing. The study revealed that although 89.9% of women reported being offered HIV testing, only 69.6% underwent testing (32). This suggests a significant gap between the offer and acceptance of testing, highlighting potential obstacles in the testing process. This finding underscores the need for further investigation into the factors influencing testing decisions among postpartum women in high-income settings.

On the other hand, in low and middle-income countries, specifically in Kenya and Zambia, previous studies demonstrated variations in the prevalence of pregnant women re-testing for HIV during antenatal care (ANC) visits (21,33). The proportion of women with compliance to ANC HIV retesting was 79% in Kenya (34) and 67.3% in Zambia (35). These findings highlight regional disparities, suggesting that cultural, socio-economic, and healthcare system factors influence compliance with HIV re-testing. However, there remains a gap in understanding the specific factors affecting re-testing compliance in Tanzania, particularly at the Buguruni Health Centre in Dar es Salaam. The current study aims to address this gap by examining local barriers and facilitators of

re-testing, providing targeted insights that can inform tailored interventions to enhance re-testing.

Shifting the focus to the local context in Tanzania, a study conducted in the Njombe region found that only 30.4% of postpartum women who initially tested negative during their first ANC visit underwent re-testing before the delivery period (25). This low re-testing rate underscores a significant gap in addressing the risk of seroconversion and preventing mother-to-child transmission of HIV. The current study aims to address this gap by examining the specific factors influencing compliance with antenatal HIV re-testing at Buguruni Health Centre in Dar es Salaam. Furthermore, a separate study in the Ubungo district of Dar es Salaam, Tanzania, highlighted that 76.1% of women who initially tested negative during their first antenatal visit were re-tested for HIV, while 23.9% did not undergo re-testing (36). This discrepancy in re-testing rates within Tanzania suggests potential regional variations or disparities in healthcare accessibility and awareness. The study's findings imply the necessity of tailored strategies to address local factors influencing compliance with antenatal HIV re-testing.

The literature reveals variations in the level of compliance to antenatal HIV re-testing among postpartum women across different income settings and within Tanzania itself. Understanding these variations is crucial for developing targeted interventions and policies that account for the unique challenges faced by diverse populations. Moreover, the implications of these findings underscore the importance of promoting consistent and comprehensive HIV testing practices to ensure the well-being of both mothers and infants.

2.2 Predisposing factors Associated with Compliance with Antenatal HIV Re-testing

Predisposing factors play a pivotal role in shaping compliance behaviors. Studies across diverse settings indicate that financial constraints, educational levels, and employment status significantly influence the likelihood of postpartum women adhering to antenatal HIV re-testing (36–38). High-income countries benefit from robust healthcare systems that often mitigate these socio-economic barriers (39).

Various studies conducted in different countries have explored the influence of age on antenatal HIV test compliance among postnatal women (38–40). In Kenya, it was observed that older women were more likely to undergo HIV re-testing compared to younger counterparts. Conversely, a Tanzanian study by Syikilili found that pregnant women aged 25-34 were more likely to undergo HIV re-testing than those of older age groups. However, a studies reported that women aged 21-30 attending ANC compared to younger people, had a lower likelihood of needing a retest. (34,36,40,41). These conflicting results highlight a gap in understanding how age specifically affects re-testing behavior in different contexts. The current study aims to address this gap by focusing on the factors influencing HIV re-testing compliance at Buguruni Health Centre in Dar es Salaam, providing a clearer understanding of local patterns and informing targeted interventions to improve re-testing rates.

Several studies conducted elsewhere including Tanzania, have investigated the relationship between education level and HIV testing during pregnancy and postpartum. Findings consistently highlight that women with higher education levels have better access to information and knowledge, increasing their utilization of health services and the likelihood of HIV re-testing during ANC visits (25). Also, study across African nations emphasizes the role of partner engagement in influencing women's HIV testing during pregnancy and postpartum. Positive partner involvement and perceptions toward

HIV counseling and testing have been linked to higher acceptance and uptake of HIV testing in Northern Tanzania (42). However, fear of disclosing HIV status to partners, as identified in studies from Kenya and Ethiopia, may lead some women to avoid ANC visits altogether (21,43). However, challenges remain, such as fear of disclosing HIV status to partners, which can lead some women to avoid ANC visits altogether, as reported in Kenya and Ethiopia.This study aims to address these gaps by specifically investigating factors influencing compliance with antenatal HIV re-testing at Buguruni Health Centre in Dar es Salaam. By focusing on local contexts and barriers, the study will provide targeted insights to improve re-testing rates, considering the roles of education and partner engagement, and addressing fears of stigma and disclosure

Women from disadvantaged backgrounds face barriers like limited access to healthcare, financial constraints, and lower health literacy, contributing to lower rates of HIV testing uptake. Studies shows women faced challenges due to income loss from ANC visits, while unemployment further hindered access due to financial constraints (44,45). These disparities underscore the need for addressing socioeconomic factors affecting compliance. On other hand, adequate access to antenatal and postnatal care services positively influences HIV testing compliance. However, challenges such as long ANC visits and transportation issues, identified to discourage attendance, of women residing far from healthcare facilities in Papua New Guinea (45).

Despite this evidence, there is a gap in understanding how these factors specifically affect compliance with antenatal HIV re-testing in the Tanzanian context, particularly at the Buguruni Health Centre. The current study aims to address this gap by identifying the factors that influence re-testing compliance and exploring how socioeconomic barriers, access to services, and logistical challenges intersect to shape women's decisions. This research will offer localized insights to inform targeted interventions aimed at improving re-testing rates and reducing mother-to-child transmission of HIV in Tanzania.

The frequency of ANC visits also plays a role in HIV re-testing compliance. Studies in Tanzania and Kenya suggest that having more than four prenatal visits increases the likelihood of re-testing for HIV (25,36). Late bookings, on the other hand, result in fewer ANC visits and a higher likelihood of delivering before the recommended three-month re-testing window (25). These findings underscore the importance of early and regular ANC attendance in ensuring timely and effective HIV re-testing.

Existing studies in Tanzania and Kenya indicate that having more than four prenatal visits enhances the likelihood of HIV re-testing, while late bookings lead to fewer ANC visits and an increased risk of delivering before the recommended three-month re-testing window. Despite these findings, there remains a significant gap in understanding the specific barriers to re-testing compliance and the effectiveness of current interventions. This study aims to address this gap by investigating the factors influencing antenatal HIV re-testing compliance at Buguruni Health Centre, thereby providing insights to inform targeted strategies and policies to improve re-testing rates and health outcomes for women and their infants.

The attitude of women towards ANC and HIV testing emerges as a significant predictor of compliance. Tanzanian studies emphasize the impact of individual, community, and health system factors on ANC service-seeking behavior (25,28,36). In Papua New Guinea, negative experiences such as long waiting hours, lack of confidentiality, and discomfort from medication side effects discourage women from attending ANC as required (45).

The literature highlights that women's attitudes towards antenatal care (ANC) and HIV testing are critical predictors of compliance, with studies from Tanzania emphasizing the influence of individual, community, and health system factors on ANC service-seeking behavior. For instance, research in Papua New Guinea identifies negative experiences such as long waiting times, lack of confidentiality, and discomfort from medication side

effects as barriers to attending ANC. Despite these insights, there remains a gap in understanding how these factors specifically affect compliance with antenatal HIV re-testing in Tanzania. This study aims to address this gap by examining the specific barriers and facilitators influencing re-testing compliance at Buguruni Health Centre, thereby providing targeted recommendations for improving adherence to re-testing protocols and enhancing overall health outcomes for women and their infants.

2.3 Psychosocial Factors Associated with Compliance to Antenatal HIV Re-testing among Postpartum Women

Perceived Social Support

In Guinea, a study by Andrew (2014) highlighted the positive impact of encouraging and supporting spouses, other pregnant women, parents, and in-laws on women's attendance at Antenatal Care (ANC) (45). This support increased the likelihood of women undergoing an HIV re-test before giving birth. Partner involvement has been consistently emphasized in various African countries, with studies showing that women who receive support from their partners are more inclined to undergo HIV testing during pregnancy and postpartum (22,43). Therefore, encouragement from spouses, family members, and other pregnant women significantly increased the likelihood of women attending Antenatal Care (ANC) and undergoing HIV re-testing before childbirth.

Additionally, social support networks also play a crucial role in shaping women's decisions to undergo HIV testing or re-testing during pregnancy and postpartum (26). Partner involvement and broader social support networks have been consistently linked to higher rates of HIV testing in various African contexts. However, despite these findings, there remains a notable gap in understanding the specific factors affecting re-testing compliance at individual health centers, such as Buguruni Health Centre in Dar es Salaam, Tanzania. The current study aims to address this gap by examining local factors influencing compliance with antenatal HIV re-testing, thereby providing targeted

insights to improve re-testing rates and health outcomes for women and their infants in this specific context.

Perception of HIV-Related Stigma

Globally, fear of stigma and discrimination associated with HIV status acts as a significant barrier to the uptake of HIV testing among pregnant women. A studies in Kenya revealed that the fear of HIV/AIDS-related stigma deterred women attending ANC services from testing for HIV. Women expressed concerns about potential relationship strain if diagnosed HIV positive, influencing their decision to avoid HIV tests (21,43). Fear of HIV/AIDS-related stigma deters women from attending antenatal care (ANC) services and testing for HIV. This study aims to address this gap by investigating the specific barriers to re-testing compliance at Buguruni Health Centre in Dar es Salaam, Tanzania. By examining local factors that influence re-testing behavior, the study will provide insights into how stigma, societal pressures, and other barriers affect compliance, thereby informing targeted interventions to improve re-testing rates and reduce mother-to-child transmission of HIV.

Self-Efficacy in Accessing HIV Testing Services

In Sudan, it was found that pregnant women attending ANC demonstrated higher chances of being tested and retested for HIV when possessing self-efficacy (42). Perception of risk and vulnerability significantly influences HIV testing uptake among women. Studies indicate that women perceiving themselves at higher risk of HIV infection or engaging in risky behaviors are more likely to seek HIV testing. This perception of risk motivates women to proactively undergo HIV testing (42,46,47). Self-efficacy and perceived risk significantly influence HIV testing and re-testing among pregnant women, with those feeling more at risk being more proactive in seeking tests. However, a gap exists in understanding how these factors specifically affect compliance with antenatal HIV re-testing in Tanzania. This study aims to address this gap by exploring the factors

influencing re-testing compliance and informing targeted interventions to improve testing rates.

Beliefs on HIV Testing Services

A study in Ethiopia found that women's beliefs about HIV testing services during ANC were greatly influenced by the quality of pre-testing counseling (48). Another study in Congo reported that among clients receiving antenatal care, the perception of voluntary counseling and testing raised the likelihood of testing and retesting (48). In Tanzania, studies have identified inadequate counseling as a barrier to HIV testing compliance (49,50). Pre-testing counseling and the perception of voluntary counseling on HIV testing and re-testing, inadequate counseling remains a significant barrier in Tanzania. This study aims to address this gap by exploring how enhancing counseling quality and client perceptions can improve compliance with antenatal HIV re-testing in Tanzania.

CHAPTER THREE

3.0 METHODOLOGY

3.1 Study design

This research adopted a health facility-based analytical cross-sectional study design. The choice of this design was justified by its efficiency in capturing a snapshot of the compliance levels to antenatal HIV re-testing at Buguruni Health Centre. The cross-sectional design allowed for the assessment of factors associated with compliance among postpartum women, providing a timely and cost-effective approach to gathering relevant information. Additionally, this design enabled the identification of patterns and associations at a specific point in time, contributing to a comprehensive understanding of the research objectives.

3.2 Study area

The study took place at Buguruni Health Centre, situated in the Dar es Salaam region, Tanzania. Dar es Salaam, being the largest commercial city in Tanzania, provided a diverse and representative population for this study. Ilala City Council, one of the five municipalities within Dar es Salaam, oversees both urban and peri-urban areas, contributing to the heterogeneity of the study population. Buguruni Health Centre was selected due to its significant role in providing antenatal and postnatal services, attending to approximately 1,500 women monthly and 78 women daily. The diversity of characteristics among the attending women made Buguruni Health Centre an ideal site for studying compliance with antenatal HIV re-testing.

Ilala City Council, bordered by Kinondoni District to the north, the Zanzibar Channel to the east, Pwani Region to the west, and Temeke District to the south, encompasses an area of 365 square kilometers. It consists of 179 dispensaries, 29 health centers, and 9 hospitals scattered across various locations.

The choice of Buguruni Health Centre as the study site was substantiated by its accessibility, the significant number of women it serves, and its representation of the diverse population within the Ilala Municipal Council. This allowed for meaningful insights into the factors influencing compliance with antenatal HIV re-testing among postpartum women.

3.3 Study population

The study targeted postpartum women at the reproductive age between 18yrs and above who received healthcare services at the selected study site (Buguruni Health Centre).

3.3.1 Inclusion Criteria

The inclusion criteria included postpartum women who had given birth **at the age of 18yrs and above** and were accessing healthcare services at the study site and provided their informed consent to participate in the study. This criterion was essential for examining compliance with the recommended HIV re-testing.

3.3.2 Exclusion Criteria.

The pregnant women who tested HIV positive at first contact and the postpartum women who was critically ill, mental disorders and postpartum complications that may impede their ability to provide accurate information.

3.4 Sample size determination

To determine the sample size, the study adopted a prevalence rate (P) of 76%, as reported by Syikilili in 2022. The decision to use this prevalence was informed by the recognition of changes and time gaps in previous estimates. With a desired 5% error margin and a standard normal deviation (Z) of 1.96 for a 95% confidence interval, Fischer's equation was applied for sample size estimation. The formula used for calculation is as follows;

$$n = \frac{z^2 p(100 - p)}{\varepsilon^2}$$

n represents the sample size,
Z denotes the Z score corresponding to the desired confidence level,
P is the expected prevalence (76.1% or 0.76),
ε is the margin of error (5% or 0.05).

By substituting the values into the formula:

$$n = \frac{1.96^2 * 76(100 - 76)}{5^2}$$

This computation yields a minimum sample size of 280

After adjusting for the 10% non-response rate, which brings 280 + 28, a total of **308** participants are required. This rigorous approach to sample size determination ensures statistical robustness and enhances the reliability of findings in exploring the factors associated with compliance to antenatal HIV re-testing among postpartum women at Buguruni Health Centre.

3.5 Sampling methods

A systematic random sampling method was deemed appropriate. This method ensured equal representation and reduced potential bias in participant selection. The steps in the sampling procedure were utilized as follows:

1. **Define the Sampling Frame:** A list of all eligible postpartum women receiving healthcare services at Buguruni Health Centre was compiled during the data collection period. This list was created over a period of one month, which captured a comprehensive representation of the target population within this healthcare facility.
2. **Determine the Sampling Interval:** The total population (N)=1500 was divided by the desired sample size (n) =308 to establish the sampling interval (k).4
3. **Randomly Select the Starting Point**: A random starting point between 1 and k was selected, using a random number generator or another unbiased method.

4. **Systematically select every k-th participant**: Every k-th participant from the list was systematically selected until the desired sample size was reached.

This systematic random sampling procedure ensured the representation of diverse postpartum women, contributing to the comprehensive exploration of factors influencing compliance with antenatal HIV re-testing.

3.6 Study variables

The following variables have been included for assessing the factors associated with compliance to antenatal HIV re-testing among postpartum women at Buguruni Health Centre, Tanzania.

3.6.1 Dependent variable

Compliance with antenatal HIV re-testing was assessed dichotomously, distinguishing participants as either compliant or noncompliant according to their adherence to the prescribed re-testing schedules during pregnancy. The determination of compliance hinged on the fulfillment of the recommended tests as stipulated in the guidelines for every trimester (two times during pregnancy: one in the first trimester at the first ANC visit and the other at 3to 36 weeks of gestation age).

3.6.2 Independent variables

Age: Age was measured in years (numeral) and further categorized into adolescent and young women (18-24 years), adult mothers (25-34 years), and advanced maternal age (35 years and above).

Educational Level: The association between educational attainment and compliance was investigated, considering categories such as no formal education, primary education, secondary education, and higher education.

Marital Status: The influence of marital status on compliance was analysed, categorizing participants into married, single, divorced, or widowed.

Employment Status: The effect of employment status on compliance was assessed, with categories including employed, unemployed, and self-employed.

Income Level: The relationship between income and compliance was examined, categorizing participants into income brackets.

Distance to Healthcare Facility: The distance was measured in kilometres and classified as near if it was between 0-5 km and far from the facility if it was more than 5 km.

Availability of Transportation: The impact of transportation availability on compliance was investigated, categorizing participants into those with easy access to transportation and those without.

Health Insurance Coverage: The influence of health insurance coverage on compliance was assessed, categorizing participants into insured and uninsured groups.

Perceived Social Support: A validated scale such as the Multidimensional Scale of Perceived Social Support (MSPSS) was used. This scale measured perceived social support from family, friends, and significant others. Scores were categorized as high, moderate, or low levels of perceived social support based on established cutoff points on the scale.

Perceived HIV-Related Stigma: The HIV Stigma Scale is a commonly used instrument to measure perceived HIV-related stigma. It assesses various aspects of stigma including enacted, felt, and internalized stigma. Participants can be categorized as either experiencing high or low levels of perceived HIV-related stigma based on their scores on the scale.

Self-Efficacy in Accessing HIV Testing: Self-efficacy can be measured using a scale like the Generalized Self-Efficacy Scale (GSES), which assesses individuals' beliefs in their ability to cope with a variety of stressful situations. Participants can be categorized as having high or low self-efficacy in accessing HIV testing services based on their scores on the scale.

Attitude towards Antenatal HIV Testing: Attitudes can be measured using a Likert-type scale assessing different aspects of attitudes towards antenatal HIV testing (e.g.,

perceived benefits, perceived barriers). Participants can be categorized as having positive, neutral, or negative attitudes based on their responses to items on the scale.

3.8 Training of research assistant

Data for this study were collected by a team of two trained research assistants, all of whom had professional backgrounds in public health and nursing. Their expertise in healthcare and familiarity with antenatal care practices made them ideal candidates for ensuring accurate data collection and participant engagement. The assistants underwent a rigorous five-day training program that focused on the study's objectives, ethical considerations, and the proper use of the interviewer-administered questionnaires. Additionally, they were trained in reviewing clinical records for verification purposes, ensuring consistency and reliability in data collection. Their training also emphasized interpersonal communication skills to foster trust and encourage honest responses from participants. The selection of these professionals was crucial for ensuring the high quality and validity of the collected data

3.9 Data Collection Method.

Before commencement of data collection, study's' purpose, benefit, risk and eligibility criteria was introduced to the study respondent by researcher. This was followed by the selection of study respondents using a systematic random sampling method, guided by a sampling frame detailing eligible individuals. Data collection took in three months during days for offering ANC services. During this period, participants were called one after another into a quiet room where privacy and confidentiality were maintained. The researcher conducted data collection sessions using polite, understandable language and a respectful manner.

During data collection, respondents were requested to sign a written informed consent upon voluntary decision to participate into the study. Data were precisely collected **over** a one-month period using a combination of face-to-face researcher-administered questionnaires and a review of participant records for verification of clinical records. All

participants were asked the same set of questions from data collection tools, and their responses were recorded as given. Three research assistance were included in the data collection process, to ensure the quality and reliability of the gathered information.

The principal investigator, along with the research assistants, adopt local languages spoken in the Buguruni Health Centre community. This linguistic proficiency was crucial for fostering effective communication and understanding during the data collection process.

Semi-structured questionnaires with closed ended question were served as the primary instrument for gathering information from the postpartum women under study. The questionnaires were carefully designed to cover a spectrum of relevant topics, ensuring a comprehensive exploration of factors influencing compliance to antenatal HIV re-testing. This dual approach aimed to provide a holistic understanding of the factors associated with compliance to antenatal HIV re-testing among postpartum women at Buguruni Health Centre.

The choice of these data collection methods was justified by their ability to yield rich information, enabling a thorough analysis of the diverse factors influencing compliance. This comprehensive approach aligned with the research objectives and ensured the study's outcomes contributed meaningfully to the existing body of knowledge in the field.

3.9 Data collection tools.

A structured questionnaire was employed in this study, developed using findings from previous studies and the recommended protocol for HIV re-testing among postpartum women (25, 28, 30, 36). The questionnaire comprised four distinct sections, each tailored to capture specific aspects of the study:

Section I – Socio-demographic Characteristics: This section collected information on the demographic profile of the respondents, specifically postpartum women. Key variables included age, education level, and marital status. The inclusion of these variables allowed for a nuanced understanding of how sociodemographic factors may have impacted compliance with antenatal HIV re-testing.

Section II – Compliance Based on Recommended Standards: This section focused on assessing compliance levels with recommended standards for HIV re-testing during the antenatal period. Questions within this section were designed to gauge adherence to established guidelines and protocols, providing a quantitative measure of compliance.

Section III – Predisposing Factors: This section explored the predisposing context of postpartum women about antenatal HIV re-testing compliance. Questions covered aspects such as income, employment status, and access to healthcare resources. The inclusion of predisposing factors aimed to identify potential disparities that may have influenced compliance.

Section IV – Psychosocial Factors: The final section delved into psychosocial factors affecting compliance with antenatal HIV re-testing. It included questions related to attitudes towards HIV testing, perceived social support, HIV-related stigma, self-efficacy in accessing testing, and fear associated with testing and diagnosis. This section provided a holistic view of the psychological and emotional aspects influencing compliance.

The chosen data collection tools, in the form of a structured questionnaire, enabled a systematic and organized approach to gathering information. The incorporation of socio-demographic, compliance, socio-economic, and psychosocial factors ensured a comprehensive understanding of the multifaceted elements influencing antenatal HIV re-testing compliance among postpartum women at Buguruni Health Centre.

3.10 Validity and Reliability of the Study Tool

3.10.1 Validity:

Ensuring the validity of the study tool was paramount for obtaining accurate and meaningful results. To measure the validity of the structured questionnaire used in this study, several measures were implemented.

Firstly, content validity was ensured through a thorough review by experts in the fields of HIV re-testing, maternal health, and questionnaire design. Their input ascertained that

the questions adequately captured the intended information and aligned with the study's objectives.

Additionally, a tool was pre-tested to a small group of postpartum women at a different health centre to assess the clarity, relevance, and appropriateness of the questionnaire. Feedback from the pre-test informed necessary adjustments by checking misinterpreted questions to enhance the tool's validity.

Furthermore, concurrent validity was examined by comparing responses from the questionnaire with other established measures of compliance to antenatal HIV re-testing. This step provided additional assurance of the questionnaire's validity in accurately measuring compliance levels.

These measures collectively ensured that the structured questionnaire was valid and reliable for assessing compliance to antenatal HIV re-testing among postpartum women at Buguruni Health Centre.

3.10.2 Reliability:

Reliability was crucial to ensure consistency and stability in the study tool. To establish reliability, the questionnaire underwent a test-retest approach. A subset of participants was asked to complete the questionnaire twice at different time points, ensuring stability in their responses over time. The resulting data were analysed using statistical measures, such as the intra-class correlation coefficient, to determine the degree of agreement between the two administrations of the questionnaire.

Internal consistency was assessed through Cronbach's alpha and was found to be 0.8 (80%) for each section of the questionnaire, confirming that the questions within each domain measured the same underlying construct, hence the tool was consistent. Rigorous measures for validity and reliability strengthened the study's credibility and provided confidence in the accuracy of the findings related to compliance with antenatal HIV re-testing among the study population.

3.11 Data analysis

Data were analyzed using SPSS for Windows version 25. Numerical variables were summarized using mean and standard deviation, while categorical variables were summarized using frequency and percentages. Further analysis was conducted per specific objectives as described in the table below:

Objectives	**Analysis**
To assess the compliance level to antenatal HIV re-testing among postpartum	In the past study, those who utilized antenatal HIV re-testing for all stages indicated in the protocol for antenatal HIV retesting. It was categorized dichotomously as 1 = compliant and 0 = non-compliant. Simple frequency analysis was employed. Findings were presented using figures for a clear visual representation.
To examine the predisposing factors associated with compliance to antenatal HIV re-testing among postpartum women	Bivariate and multivariate logistic regression analyses were used to estimate the strengths of the association, presenting crude odds ratios (COR) and adjusted odds ratios (AOR) respectively. Findings were presented using two-way tables to provide a comprehensive understanding of the associations.

To investigate the psychosocial factors associated with compliance to antenatal HIV re-testing among postpartum women	In the past study, bivariate and multivariate logistic regression analysis were used to estimate the strengths of association, including crude odds ratio (COR) and adjusted odds ratio (AOR) respectively. Findings were presented using two-way tables to provide a detailed representation of the strengths of the association.

3.12 Ethical Consideration.

In the past study, ethical guidelines were strictly adhered to by obtaining necessary approvals and consents. Ethical clearance was granted by the institution review board (IRB) of Muhimbili University of Health and Allied Sciences (MUHAS). Permission to conduct the study within the administrative territory of Ilala district was obtained from the District Medical Officer. Before commencing the study, approval and cooperation were sought from the Medical Officer In charge (MOI) of Buguruni Health Centre.

Informed consent was obtained from each study participant, both verbally and in written form. The objectives and procedures of the study were explained to the participants before conducting interviews, and written informed consent was sought. It was emphasized that participation was voluntary and that withdrawal of consent or refusal to participate at any point in the study was permitted without repercussions. Participants were assigned codes to protect their identities, ensuring confidentiality. Electronic data were stored in a password-protected laptop, accessible only to the researcher and research supervisors.

3.13 Dissemination plan

In the past study, the research findings were presented within the nursing department, and a hardbound dissertation was submitted to MUHAS for academic purposes. Copies

of the dissertation were also provided to Buguruni Health Center to inform healthcare practice decisions.

Additionally, a manuscript was prepared and submitted to an appropriate peer-reviewed journal for possible publication. This dissemination approach ensured that the study's outcomes contributed to both academic knowledge and practical healthcare improvements.

CHAPTER FOUR

4.0 RESULTS

4.1 Socio-demographic characteristics

Of 308 postpartum women recruited at Buguruni Health Centre 171 (55.5%) were aged 25 years and above, mean age was 26.3 (SD ±5.3), and media of 26.0. The majority 226 (73.4%) reported living with partners and more than three quarters 128(41.6%) had completed their primary level of education. The majority of them 262 (85.1%) were employed, 213 (69.2%) had their first ANC contact in the 2nd and 3rd trimesters of their pregnancy, 191 (64%) were multipara, and 177 (57.5%) had less than four ANC contacts, and 179 (58.1%) reported their partner are involved in their ANC visits.

Table1: Demographic characteristics and Relationship between the predisposing, psychosocial factors with compliance of antenatal HIV re-testing (N=308)

Variables		Frequency n (%)	Compliance		p-Value
			Yes (%)	No (%)	
Predisposing factors					
Age	15-24	137(44.5)	77(56.2)	60(43.8)	**0.001**
	25- max	171(55.5)	128(74.9)	43(25.1)	
Living with partner	No	82(26.6)	55(67.1)	27(32.9)	0.908
	Yes	226(73.4)	150(66.4)	76(33.6)	
Education level	No-formal - primary	141(45.8)	86(61.0)	55(39.0)	0.057
	Secondary - college	167(54.2)	119(71.3)	48(28.7)	
Occupation	Employed	262(85.1)	174(67.4)	88(32.6)	0.897
	Unemployed	46(14.9)	31(66.4)	15(33.6)	
Trimester at the first contact.	1st trimester	95(30.8)	67(70.5)	28(29.5)	**0.002**
	2nd trimester	180(58.4)	125(69.4)	55(30.6)	
	3rd trimester	33(10.7)	13(39.4)	20(60.6)	
Parity	Primipara	111(36.0)	64(57.7)	47(42.3)	**0.013**
	Multipara	197(64.0)	141(71.6)	56(28.4)	
Number of ANC contact	<4	177(57.5)	101(57.1)	76(42.9)	**0.000**
	>4	131(42.5)	104(79.4)	27(20.6)	
Informed HIV re-testing at 32-36 week	Yes	241(78.2)	187(77.6)	54(22.4)	**0.000**
	No	67(21.8)	18(26.9)	49(73.1)	
Psychosocial factors					
Social support received	Yes	192(62.3)	136(70.8)	56(29.2)	**0.041**
	No	116(37.7)	69(59.5)	47(40.5)	
Confidence in HIV re-testing with partners	Yes	243(78.9)	172(70.8)	71(29.2)	**0.002**
	No	65(21.1)	33(50.8)	32(49.2)	
No Perceived stigma	Yes	210(68.2)	148(70.5)	62(29.5)	**0.03**
	No	98(31.8`)	57(58.2)	41(41.8)	

4.2 Level of compliance of HIV retesting

Of 308 of women recuited, (203, 66.6%) of the participants complied with HIV retesting, while (105, 33.4%) did not comply. This indicates a relatively low level of adherence to HIV retesting protocols among the postpartum women at Buguruni Health Centre.

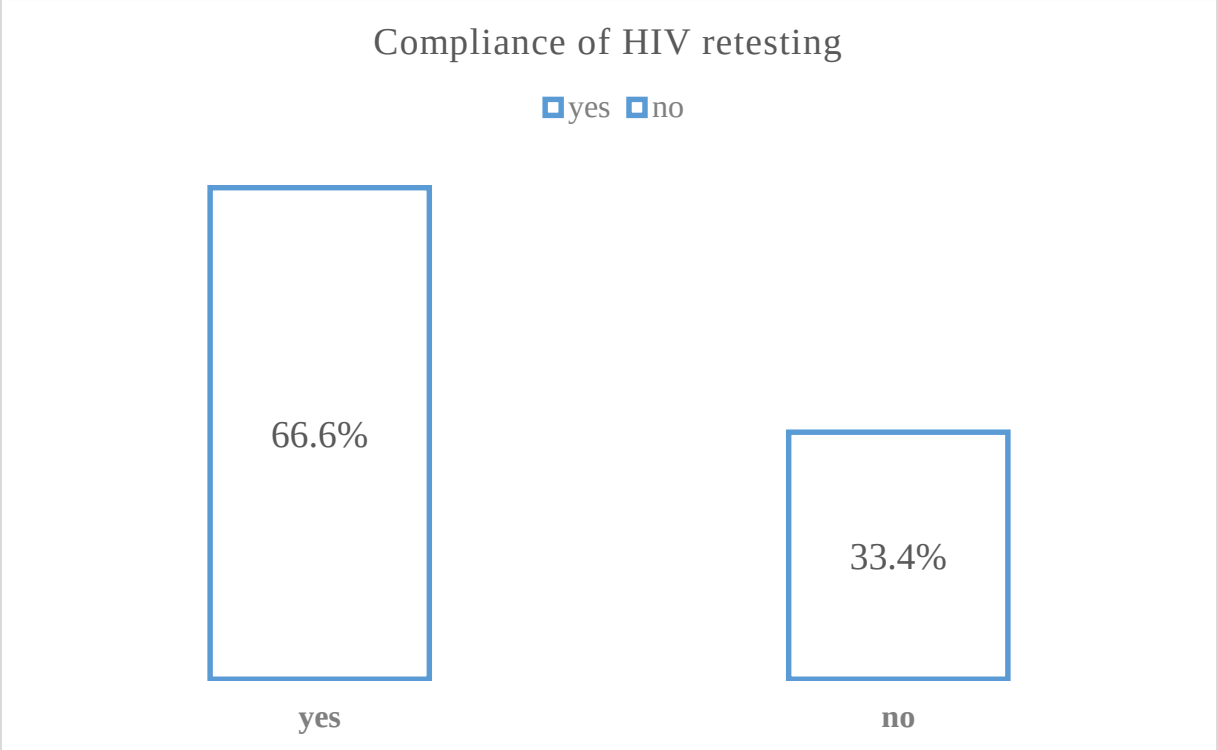


Figure 2: Compliance of HIV retesting among postpartum women at Buguruni Health Centre (N=308).

4.3. Factors associated with compliance to antenatal HIV re-testing

The study examined various predisposing and psychosocial factors associated with compliance with antenatal HIV re-testing among pregnant women. The findings of multiple regression analysis revealed that women aged 25 years and above were 2.2times more likely to comply with antenatal re-testing compared to those aged 15-24 years (aOR: 2.2, 95% CI: 1.127-4.293, p = 0.02). Additionally, women with higher educational attainment were 1.9 times more likely to comply with antenatal re-testing than those with lower educational levels (aOR: 1.9, 95% CI: 1.089-3.191, p = 0.02).

First-time mothers (primiparous women) were 1.9 times more likely to comply with HIV re-testing recommendations during pregnancy (aOR: 1.9, 95% CI: 1.161-3.241, p = 0.01). Moreover, women with more than 4 antenatal care (ANC) visits were 3.1 times more likely to comply with antenatal lHIV re-testing than those with fewer than 4 ANC visits (aOR: 3.1, 95% CI: 1.838-5.461, p = 0.00). Those informed about HIV re-testing between 32-36 weeks of gestation were 9.5times more likely to comply with HIV retesting. (aOR: 9.5, 95% CI: 5.122-17.848, p = 0.00).

Women who received social support during pregnancy were 1.6 times more likely to comply with antenatal HIV re-testing than those who did not receive social support (aOR: 1.6, 95% CI: 1.019-2.683, p = 0.04). Women with confidence in undergoing HIV re-testing with a partner was 2.4 times more likely to be associated with compliance than those do not having confidence (aOR: 2.4, 95% CI: 1.353-4.166, p = 0.03). Lastly, the absence of perceived stigma was 1.8 times more likely to be associated with compliance with HIV re-testing than experiencing stigma (aOR: 1.8, 95% CI: 1.116-3.195, p = 0.02).

Table 2. The associated factors with compliance to antenatal HIV re-testing: Bivariate and Multivariate regression

Variables	Categories	cOR 95%CI	p-value	aOR 95%CI;	p-value
Predisposing factors					
Age group	25-max	2.3(1.431-3.760)	0.01	**2.2**(1.127-4.293)	0.02
	15-24	Ref			
Educational level	Secondary- college	1.6(0.985-2.553)	0.05	**1.9**(1.089-3.191)	0.02
	No formal-primary	Ref			
Parity	Primipara	1.8(1.136-3.011)	0.01	**1.9**(1.161-3.241)	0.01
	Multipara	Ref			
Number of ANC contact	≥4	2.9(1.728-4.863)	0.00	**3.1**(1.838-5.461)	0.00
	<4	Ref			
Informed HIV re-testing at 32-36 weeks	Being informed	9.4(5.075-17.511)	0.00	**9.5**(5.122-17.767)	0.00
	No-informed	Ref			
Psychosocial factors					
Social support received during pregnancy	Received	1.7(1.020-2.684)	0.04	**1.6**(1.019-2.683)	0.04
	Not-received	Ref			
Confidence HIV retesting with the partner	Yes	2.3(1.343-4.110)	0.00	**2.3**(1.353-4.166)	0.03
	No	Ref			
No perceived stigma	Yes	1.7(1.042-2.828)	0.03	**1.8**(1.116-3.195)	0.02
	No	Ref			

CHAPTER FIVE

5.0 DISCUSSION

5.1 Discussion of the main finding

The findings from this study offer valuable insights into the multifaceted factors influencing compliance with antenatal HIV re-testing among postnatal individuals, thereby contributing to the broader understanding of this critical public health issue. The finding of this study revealed a notable compliance rate of 66.6% with HIV re-testing protocols among postpartum women at Buguruni Health Centre. This highlights the significance of understanding the determinants that promote adherence to such vital health interventions. This rate is consistent with findings reported in various global and regional studies focused on antenatal care and HIV testing. Studies conducted across sub-Saharan Africa have similarly reported a range of 60% to 80% of women's complying rates were influenced by factors such as age, education level, and accessibility to healthcare services (51–53).

The findings of this study underscore that older age, specifically 25 years and above, is significantly associated with higher compliance with antenatal HIV re-testing among pregnant individuals. This observation aligns with existing studies done in Botswana and Eswatini, Ethiopia, and Mozambique, indicating that older age is often correlated with increased health literacy, greater awareness of healthcare needs during pregnancy, and more proactive engagement with healthcare services (54,55). This suggested that older individuals tend to exhibit more responsible health behaviour’s, including adherence to medical recommendations such as regular HIV testing during pregnancy.

Similarly, the observed association between higher educational attainment and enhanced compliance with HIV re-testing during pregnancy, aligned with multiple studies conducted from Tanzania (25), Rwanda (56), Kenya (21), and Ghana (57). The consistency among studies demonstrates that individuals with higher levels of education tend to exhibit better health-seeking behaviors and are more likely to adhere to

recommended health interventions, including HIV testing. This trend can be attributed to increased health literacy among individuals with higher educational attainment, which raises a deeper understanding of the importance of regular health screenings like HIV testing during pregnancy (57).

Additionally, primiparity, which refers to experiencing a first pregnancy, emerged as a significant predictor of compliance with antenatal HIV re-testing in this study. This finding is consistent with the study from Kenya, which suggests first-time mothers may exhibit heightened adherence to repeated HIV testing during pregnancy (58). The identification of primiparity as a predictor of compliance underscores the importance of maternal experience in shaping healthcare behaviours and decision-making processes during pregnancy. First-time mothers were more attentive to following healthcare guidelines, including recommendations for regular HIV re-testing, as they navigate the new responsibilities and uncertainties of pregnancy (51,58,59).

The finding of this study shows that pregnant women having more than four ANC visits were more significantly compliant with HIV re-testing during pregnancy. Adequate ANC utilization is a foundation of effective maternal health care, providing numerous benefits [including timely HIV testing and other vital health services. The finding of this study is consistent with the study done in Tanzania which demonstrated that regular ANC visits significantly increase the likelihood of receiving timely HIV testing and other crucial maternal health interventions (25). These visits offer multiple benefits where healthcare providers can educate pregnant individuals about the importance of HIV re-testing, monitor their health, and address any concerns or barriers they might face (25,54).

The findings of this study show that an informed HIV re-testing between 32-36 weeks of gestation was found to be a highly significant predictor of compliance. This finding highlights the importance of timely and appropriate communication by healthcare providers regarding the necessity and benefits of re-testing late in pregnancy. This result is consistent with recommendations from global health organizations advocating for

comprehensive HIV testing strategies during pregnancy to safeguard maternal and child health (60,61). Ensuring that pregnant individuals are well-informed about the critical window for HIV re-testing helps to facilitate adherence to testing protocols, which is crucial for preventing perinatal transmission of HIV.

The finding of this study revealed that social support during pregnancy was also identified as a significant factor associated with compliance with HIV re-testing. This implies that the presence of a supportive network, including family, friends, and community resources, plays a crucial role in encouraging pregnant individuals to follow through with healthcare recommendations, including HIV re-testing. The finding of the study aligned with the multiple studies conducted in Australia (62), Ethiopia (63), Poland (64), and India (65) which emphasizes the positive impact of social determinants on healthcare decision-making and adherence. Therefore, social support can alleviate stress, provide emotional reassurance, and offer practical assistance, all of which contribute to better health outcomes.

The findings of this study revealed that confidence in HIV re-testing with a partner is a significant predictor of compliance. When partners are supportive and actively involved in the healthcare decisions of pregnant individuals, it creates an environment of trust and collaboration. This can reduce anxiety about HIV re-testing and reinforce the importance of regular testing (66). The findings of this study were consistent and emphasized that encouraging partner involvement in prenatal care and HIV testing can therefore be a strategic approach to enhance compliance rates (63,64,66).

Lastly, the absence of perceived stigma was significantly associated with compliance. Stigma related to HIV can be a formidable barrier, deterring individuals from seeking testing and other healthcare services. Reducing stigma through education, community engagement, and supportive healthcare practices is essential for promoting an inclusive environment where pregnant individuals feel safe and motivated to undergo HIV re-

testing (63,64). This finding highlights the critical need for stigma reduction initiatives as part of comprehensive HIV prevention and care programs.

5.2 Strengths, limitation and mitigation of the study

Strengths of the study included the use of a rigorously validated structured questionnaire, which ensured the reliability and consistency of the data collected. The studies also focused on a specific health center allowed for a detailed contextual analysis, which provides valuable localized insights for improving HIV re-testing practices.

Limitations of the study included potential biases in the self-reported data obtained through the structured questionnaire, as participants might have provided socially desirable responses or inaccurately recalled information. Furthermore, the cross-sectional design made it more difficult to establish causal links between variables. Mitigation strategies involved ensuring the anonymity and confidentiality of participants to minimize response biases. These strategies aimed to enhance the reliability and validity of findings, contributing to a more robust assessment of factors influencing compliance to antenatal HIV re-testing among postpartum women at Buguruni Health Centre in Tanzania.

CHAPTER SIX

6.0 CONCLUSION AND RECOMMENDATION

6.1 Conclusion

Improving adherence to HIV re-testing during pregnancy, which has a compliance level of 66.6% among surveyed women, can be achieved by addressing factors such as older age, higher education, first-time motherhood, increased antenatal care visits, timely information, social support, partner involvement, and stigma reduction. Effective interventions targeting these areas are essential for enhancing maternal and child health outcomes in HIV prevention programs.

6.2 Recommendation

The recommendation based on the finding of the study on complied with HIV retesting during pregnancy, have been categorized into clinical practices, policy makers, and further study:

a) Clinical Practice

Based on the study of surveyed women who complied with HIV re-testing during pregnancy, several recommendations can be proposed to enhance adherence and improve maternal and child health outcomes in clinical practice

i) Enhance antenatal care services by ensuring that pregnant women receive clear, timely and comprehensive information about HIV re-testing protocols, particularly during the 32–36-week gestational period, to promote timely compliance.

ii). Develop and integrate social support mechanisms within antenatal care services, encouraging involvement of partners and family members in HIV re-testing discussions to reduce stigma and boost the confidence of pregnant women in undergoing re-testing.

b). Policymakers

Based on the study of surveyed women who complied with HIV re-testing during pregnancy, several recommendations can be proposed to enhance adherence and improve maternal and child health outcomes to policy maker

i).Increase awareness to the community by Create and promote public health campaigns aimed at normalizing HIV re-testing during pregnancy, reducing stigma, and fostering community-level awareness about its significance.

c). Future Research

Based on the study of surveyed women who complied with HIV re-testing during pregnancy, several recommendations can be proposed to enhance adherence and improve maternal and child health outcomes for further research.

i. Conduct longitudinal studies to better understand the causal relationships between education, social support, and compliance with HIV re-testing among pregnant women.
ii. Explore the effectiveness of different support models, such as partner involvement and community-based interventions, in improving HIV re-testing rates during pregnancy.

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LIST OF APPENDICES

Appendix I. Consent form (English version)

MUHIMBILI UNIVERSITY OF HEALTH AND ALLIED HEALTH SCIENCES

DIRECTORATE OF RESEARCH AND PUBLICATIONS

ID. NO

Consent Form for Participating in a Research Study

My name is **MARY MATUNDA** a postgraduate student, pursuing a Master of Science in Midwifery Nursing at Muhimbili University of Health and Allied Sciences (MUHAS) in the School of Nursing. I am assessing the factors associated with compliance to antenatal HIV testing at Buguruni Health Centre, Dar es Salaam.

The aim of the Study

Aim of the study is to assess the factors associated with compliance to antenatal HIV testing at Buguruni Health Centre, Dar-Es-Salaam, Tanzania.

The conclusions of this study will offer rich information for enhancing the strategies to overcome barriers or challenges of adhering to antenatal HIV testing and hence improving health outcomes of both the mother and her child around the country.

Procedure

I would like you to contribute in this study. You are carefully chosen among the women attending at Buguruni Health Centre. You will be questioned for roughly 15 to 20 minutes if you decide to participate.

Confidentiality

Every response will be kept private. This implies that your answers will be kept confidential and shared with MUHAS only as needed for research purposes. I will ensure that any information included in my report does not identify you as the respondent. No names will be included both during the interview and reporting findings.

Right to refuse or withdraw

Participating in this study is entirely up to you. Furthermore, the interview can be ended at any time and for any reason without consequences, and you are not required to discuss anything you do not want to. Though your experience is crucial to our study, I nevertheless urge you to take part.

Benefits

Participating in this study may not benefit you personally, but might provide useful information that will benefit others and improve the rate of compliance to antenatal HIV testing and positive health outcomes for you and the health care system.

Risks

You won't suffer any consequences from taking part in this study, even though some of the questions might be sensitive.

Whom to Contact

In case of any inquiry please contact the researcher, **MARY MATUNDA** from MUHAS, P. O. BOX 65001, Dar es Salaam, mobile number 0652576666 If you ever have questions about your rights as a participant, you may contact the Director of Research and Publications, at MUHAS. P.O. Box 65001, Dar es Salaam-Tanzania.

Signature

Do you agree to participate? ……..

I, ... have read the contents of this form and understood.

My questions have been answered; I agree to participate in this study.

Signature of participant..... Date.....

Signature of researcher ..... Date.....

Appendix II: Fomu ya Ridha (Kwa kiswahili)

CHUO KIKUU CHA AFYA NA SAYANSI SHIRIKISHI MUHIMBILI

KURUGENZI YA UTAFITI NA MACHAPISHO

Namba ya utambulisho

Fomu ya Ridhaa ya Kushiriki Katika Utafiti

Jina langu ni MARY MATUNDA mwanafunzi wa Shahada ya Uzamili, anayesomea Shahada ya Uzamili ya Sayansi katika Uuguzi wa Ukunga katika Chuo Kikuu cha Afya na Sayansi Shirikishi Muhimbili (MUHAS) katika Shule ya Uuguzi. Ninafanya utafiti juu ya sababu zinazohusiana na kuzingatia upimaji wa VVU kipindi cha ujauzito katika kituo cha afya Buguruni, Dar-Es-Salaam, Tanzania.

Lengo la Utafiti

Lengo la utafiti ni kuchunguza sababu zinazohusiana na kuzingatia upimaji wa VVU kipindi cha ujauzito katika kituo cha afya Buguruni, Dar-Es-Salaam, Tanzania.

Matokeo ya utafiti huu yatatoa taarifa tele juu ya hatua za awali za utekelezaji na kuboresha huduma ili kuongeza uzingatiaji wa kupima VVU kipindi cha ujauzito katika kituo cha afya Buguruni au vituo/hospitali nyingine kote nchini.

Usiri

Majibu yote utakayotoa yatakuwa siri, hii inamaana kuwa majibu yako yatatumiwa na mtafiti kwa lengo la utafiti huu na kama kuna ulazima yatatumiwa na Chuo Kikuu Muhimbili.

Ningependa ushiriki katika utafiti huu. Umechaguliwa kwa sababu wewe ni mmoja kati ya wanawake waliojifungua katika kituo hiki cha afya. Ikiwa umekubali kuhusishwa katika utafiti huu mahojiano yatachukua muda wa dakika 15-20 na majadiliano yatarekodiwa kusudi nisikose taarifa yoyote na maana sitaweza kuandika kila kitu unachosema kwa haraka.

Ninakuhakikishia ya kuwa taarifa zote zitakazojumuishwa katika utafiti hazitakufanya ujulikanekama ndiye mshiriki, majina yako hayataandikwa katika mahojiano wala ripoti ya utafiti.

Haki ya kukataa au kujitoa

Ushiriki katika utafiti huu ni wa hiari. Pia hulazimishwi kuongea jambo lolote ambalo usingependa kuliongea. Unaweza kusitisha mahojiano wakati wowote endapo utaona ni vyema
kufanya hivyo bila athari yoyote. Licha ya hayo ningependa ushiriki wako katika utafiti huu kwani uzoefu wako ni muhimu katika utafiti huu.

Faida

Kushiriki katika utafiti huu hakuwezi kukufaidisha wewe binafsi, lakini kushiriki kwako katika utafiti huu, kutawezesha kupata taarifa zitakazo saidia katika kuboresha miundo mbinu itakayo hamasisha upimaji wa VVU kipindi cha ujauzito na hivo kupunguza kiwango cha maambukizi ya VVU kutoka kwa mama kwenda kwa mtoto.

Madhara

Hakuna madhara yoyote yanayoweza kukupata kwa kushiriki kwako katika utafiti huu japo
baadhi ya maswali utakayoulizwa yaweza kuwa ya binafsi zaidi.

Watu wa kuwasiliana nao

Kama una maswali katika utafiti huu unaweza kuwasiliana na mtafiti **MARY MATUNDA** kutoka Chuo Kikuu cha Afya na Sayansi shirikishi Muhimbili, S.L.P. 65001, Dar es Salaam. Simu namba 0652576666

Sahihi

Je? Unakubali kushiriki weka alama ya tiki (√) katika kisanduku husika Ndiyo Hapana

Mimi.....nimesoma fomu hii ya ridhaa na nimeielewa. Maswali yangu yamejibiwa. Nakubali kushiriki katika utafiti huu.

Saini ya mshiriki..... Tarehe.....

Saini ya mtafiti ..... Tarehe.....

Appendix III: Structured Questionnaire (English Version)

MUHIMBILI UNIVERSITY OF HEALTH AND ALLIED HEALTH SCIENCES

DIRECTORATE OF RESEARCH AND PUBLICATIONS

This is a structured questionnaire between the researcher and the patient to explore compliance of antenatal HIV re-testing

Introduction

I have chosen you among others hoping that you have a wealth of information and can answer my questions. Your answers are and will be accepted without hesitation, so feel free. I would also like to remind you that, this interview will last 15-20 minutes.

Participant ID: _____

Section I: Sociodemographic Information

SNO	Question/Items	Possible Responses/Categories
1.1	Age (years)	
1.2	Marital Status	[ ] Single [ ] Married/cohabited [ ] Divorced [ ] Widowed
1.3	Educational Level	[ ] No formal education [ ] Primary [ ] Secondary [ ] College/university or higher
1.4	Occupation	[ ] Formal employed [ ] Informal employed [ ] Self-employed .
1.5	Monthly income	
1.6	Residential Area	[ ] Urban [ ] Rural
1.7	Number of pregnant (gravidity)	

1.9	Distance to Buguruni Health Centre	[ ] < 5 km [ ] > 5 km
1.10	Access to Transportation	[ ] Yes [ ] No
1.11	Number of Antenatal Care Attendance	_____
1.12	Gestational Age at First Antenatal Visit	[ ]1st trimester[ ]2nd trimester[ ]3rd trimester

Section II: Compliance Level to Antenatal HIV Re-testing

SNO	Compliance questions	Responses (put a tick/fill in to your responses)
2.1	Were you aware of the importance of antenatal HIV re-testing during ANC?	[ ] Yes [ ] No
2.2	Did you undergo HIV testing during your first ANC visit?	[ ] Yes [ ] No
2.3	Were you informed about the need for repeat HIV testing at 34 -36 weeks of pregnancy during ANC?	[ ] Yes [ ] No
2.4	Did you undergo the antenatal HIV re-testing at 34-36 weeks pregnancy?	[ ] Yes [ ] No
2.5	Were you informed about the implications of a positive HIV test result during the re-testing?	[ ] Yes [ ] No
2.6	Did you comply with the recommended repeat HIV testing schedule?	[ ] Yes [ ] No

Section III: Predisposing factors

SNO	Question/Item	Possible Categories

3.1	HIV Testing during Previous Pregnancies	[ ] Yes [ ] No
3.2	Aware of Antenatal HIV Re-testing	[ ] Yes, [ ] No
3.3	Perceived Susceptibility to HIV	[ ] Yes, [ ] No
3.4	Perception of Antenatal HIV Re-testing Importance	[ ] Yes, [ ] No
3.5	Partner's Involvement in Antenatal Care	[ ] Yes, [ ] No
3.6	Previous HIV Test Result	[ ] Yes, [ ] No
3.7	Previous PMTCT (Prevention of Mother-to-Child Transmission) Involvement	[ ] Yes, [ ] No
3.8	Appropriate source of Information about Antenatal HIV Re-testing	[ ] Yes, [ ] No
3.9	The accessibility of Antenatal HIV re-testing at Buguruni Health Centre for ANC services?	[ ] Yes, [ ] No
3.10	Aware of the importance of HIV re-testing during the antenatal period?	[ ] Yes, [ ] No
3.11	Is community aware of the importance of HIV re-testing during the antenatal period	[ ] Yes, [ ] No
3.12	Awareness of the importance of HIV re-testing during the antenatal period	[ ] Yes, [ ] No
3.13	Accessibility to Buguruni Health Centre	[ ] Yes, [ ] No
3.14	Social Support Received During Pregnancy	[ ] Yes, [ ] No

3.15	Partner's involvement in antenatal care	[ ] Yes, [ ] No

Section IV: Psychosocial Factors

4.1 Are you confident enough to discussing about HIV testing with your partners or family members?

1. Yes
2. No

4.2 Do you experience emotional reaction when contemplating antenatal HIV re-testing?

1. Yes
2. No

4.3 Do you receive support from your social networks (family, friends) regarding antenatal HIV re-testing?

1. Yes
2. No

4.4 Do you trust the confidentiality of the HIV testing process?

1. Yes
2. No

4.5 Do you perceive social stigma associated with HIV testing in your community?

1. Yes
2. No

4.6 Do you believe that complying with antenatal HIV re-testing positively influences your relationships and support systems?

1. Yes
2. No

4.7 Are you comfortable feeling to discuss your HIV status with healthcare providers during the re-testing process?

1. Yes
2. No

4.8 Do you believe that antenatal HIV re-testing is a shared responsibility within your relationships?

1. Yes
2. No

4.9 How do you cope with the psychological stress associated with the anticipation of antenatal HIV re-testing results?

a. Seek emotional support

b. Engage in positive thinking

c. Use coping mechanisms (please specify)

d. Experience no stress

e. Other (please specify)

Appendix IV: Mwongozo wa dodoso (Kwa kiswahili)

CHUO KIKUU CHA AFYA NA SAYANSI SHIRIKISHI MUHIMBILI

KURUGENZI YA UTAFITI NA MACHAPISHO

Huu ni mwongozo wa dodoso kati ya mtafiti na mgonjwa kwa ajili ya kutafiti juu ya sababu zinazohusiana na kuzingatia kurudia upimaji wa VVU kipindi cha ujauzito.

Utangulizi

Nimekuchagua miongoni mwa wengine nikitumai kuwa una habari tele na unaweza kujibu maswali yangu. Majibu yako yanakubaliwa na yatakubaliwa bila kusita, kwa hivyo jisikie huru. Ningependa pia kukukumbusha kwamba, mahojiano haya yatachukua muda wa dakika 15-20.

Sehemu ya I:

Taarifa Binafsi

NA	Swali	Majibu
1.1	Umri	
1.2	Hali ya ndoa	{ }sijaplewa { } nimeolewa { } mtalakiwa { } mjane { }
1.3	Kiwango cha elimu	{ }sijasoma { }elimu ya msingi { }elimu ya sekondari { }elimu yajuu.{ }nyingineyo
1.4	Hali ya ajira	
1.5	Kipato cha mwezi	
1.6	Makazi	{ }mjini { } kijijini
1.7	Idadi ya watoo	

1.8	Umezaa mara ngapi	
1.9	Umbali uliopo kufikia kituo cha afya cha buguruni	{ } chini ya kilometa 5 ( ) zaidi ya kilometa 5
1.10	Usafiri unapatikana	{ }ndio { } hapana
1.11	Utunzaji wa ujauzito	{ }kawaida { } sio kawaidw
1.12	Umri wa ujauzito katika hudhurio la kwanza	
1.13	Idadi ya mahudhurio wakati utunzaji wa ujauzito	
1.14	Una Historia ya kupimaji wa VVU?	{ } ndio,kwa ujauzito uliopita { } hapana
1,15	Ushiriki wa mwenza katika mahudhurio ya utunzaji wa ujauzito	{ }mazuri 5-8{ }hafifu 1-4 { }hakuhudhuria

SEHEMU YA II:.

Kiwango cha Kukamilisha Marudio ya Upimaji wa VVU

NA	Maswali ya kufuata marudio ya upimaji wa VVU.	
2.1	Je, ulijua umuhimu wa kurudia kupima VVU wakati wa ujauzito ?	{ } Ndio { }hapana
2.2	Ni mara ngapi ulihudhuria klinik ya utunzaji wa ujauzito wakati wa ujauzito wako?.	{ } Ndio { }hapana
2.3	Ulipima vvuwakati wa hudhurio lako la kwanza kliniki.	{ } Ndio { }hapana

2.4	Ulipewa taarifa kuhusu kurudia VVU katika wiki ya 32-26 ya mimba wakati wa utunzaji wa ujauzito?	{ } Ndio { }hapana
2.5	Ulifnya kipimo cha VVU katika wiki ya 32-36 ya mimba	{ } Ndio { }hapana
2.6	Ulipewa taarifa kuhusu kuhusishwa na matokeo chanya ya kupima VVU wakati wa kurudia kupima tena	{ }Ndio { }hapana
2.7	Hali yako ya maambukizi ya VVU ikoje?	{ }nina maambukizi { }sins maambukizi.
2.8	Je, ulijulishwa kuhusu matokeo chanya ya upimaji wa VVU wakati wa kupima tena	{ }ndio { } hapana
2.9	Ikiwa matokeo ya VVU ni chanya ulianza matibabu kulingana na miongozo iliyopo ya matibabu ya VVU	{ }} ndio { }hapana
2.10	Kutoka kwa gidline je mgonjwa alizingatia marudio ya kipimo cha VVU kilivyopendekezwa?	{ } ndio { } hapana
2.11	Sababu zilizokumpelekea usikamilishe kipimo cha marudio cha VVU	

Section III

Mambo yanayopelekea.

Na.	**Maswali**	**Mjibu yanyowezekana**

3.1	Je uliwahi kupima VVU wakati ulipopata ujauzito kipindi kilichopita?	[ ] Ndiyo [ ] Hapana
3.2	Je unauelewa wowote kuhusu kurudia kupimwa VVU wakati wa ujauzito kabla ya kujifung	[ ] Hafifu, [ ] kiasi, [ ] Mzuri, [ ] Mzuri sana
3.4	Mtizamo ulionao dhidi ya kurudia kupima HIV kipindi cha ujauzito kabla ya kujifungua	[ ] Siyo Muhimu, [ ] Muhimu kiasi flani, [ ] Muhimu, [ ] Muhimu sana.
3.5	Uhusika wa mwenza katika matunzo ya mjamzito kipindi cha ujauzito kabla ya kujifungua?	[ ] Hakuna, [ ] Upo kiasi kidogo, [ ] Upo kiasi, [ ] Upo kiasi kikubwa
3.6	Matokeo ya nyuma ya kipimo cha VVU	[ ] Hasi, [ ] Chanya
3.7	Uhusika wa siku za nyuma kuzuia uanbukizi wa mama na mtoto	[ ] Hakuna, [ ] Upo kiasi kidogo, [ ] Upo kiasi, [ ] Upo kiasi kikubwa [ ] None, [ ] Minimal, [ ] Moderate, [ ] High
3.8	Chanzo cha Taarifa za kupata huduma ya kurudia kupima VVU kwa mjamzito kabla ya kujifungua	[ ] Kituo cha Afya, [ ] Jamii, [ ] Vyombo vya Habari, [ ] Familia/Marafiki
3.10	Je wanawake waliojifungua wanauelewa wa umuhimu kurudia kupima VVU kabla ya kujifungua?	[ ] ndio [ ] Hapana [ ] sina uhakika

3.11	Je una historia ya kurudia kupima VVU kabla ya kujifungua kwenye ujauzito iliyopita?	[ ] Ndio [ ] Hapana
3.12	Upatikanaji wa huduma yaukurudia kupima VVU katika Kituo cha Afya Buguruni	[ ] Kirahisi, [ ] Wastani, [ ] Vigumu
3.13	Msaada wa kijamii kupatikana kipindi cha Ujauzito	[ ] Chini, [ ] Kiasi kidogo, [ ] Kiasi Kikubwa

Sehemu ya IV

Sababu za saikolojia jamii

4.1 Je unajiamini kiasi cha kutosha kuhusu kuzungumza na mwenza ama familia yako kuhusu suala la kupima VVU?

a) Ndio
b) Hapana

4.2 Je kuna athari zozote za kimhemko unazipata unapo tafakari kuhusu kipimo cha marudio maambukizi ya VVU kipindi cha ujauzito? (Angalia majibu yote yanayofaa)

a) Ndio
b) Hapana

4.3 Je umepata ushirikiano wowote kutoka kwa familia na marafiki kuhumu kuhusu kupima kipimo kipimo cha marudio cha VVU?

a) Ndio
b) Hapana

4.4 Je unaamini kuna usiri katika mchakato mzima wa upimaji wa?

a) Ndio

b) Hapana

4.5 Je unauelewa kuhusu unyanyapaa wa kijamii unaohusiana na upimaji wa maambukizi ya VVU kwa mwanamke mjamzito kwa jamii unaishi?

a) Ndio
b) Hapana

4.6 Je unaamini kufuata utaratibu wa kurudia kupima maambukizi ya VVU wakati wa ujauzito una manufaa?

a) Ndio
b) Hapana

4.7 Je una amani kuzungumzia suala la maambukizi ya VVU na wahudumu wa afya wakati wa mchakato wa kufanya vipimo?

a) Ndio
b) Hapana

4.9 Unawezaje kukabiliana na msongo wa mawazo wa kisaikolojia unaotarajiwa kusababishwa na kupata matokeo baada ya kupima maambukizi ya VVU wakati wa mjamzito?

a) Kupata msaada wa kihisia
b) Kufikiria upande chanya wa kukabiliana na hali hiyo
c) Nitatumia njia mbadada (tafadhali zitaje)
d) Sitakuwa na msongo wa mawazo
e) Vinginevyo (Tafadhali elezea)

Appendix V: Ethical clearance letter

UNITED REPUBLIC OF TANZANIA

MINISTRY OF EDUCATION, SCIENCE AND TECHNOLOGY

MUHIMBILI UNIVERSITY OF HEALTH AND ALLIED SCIENCES

OFFICE OF THE DIRECTOR – RESEARCH, PUBLICATIONS AND INNOVATION

Ref. No.DA.282/298/01.C/2134 Date: 02/04/2024

MUHAS-REC-04-2024-2134
MARY SYLIVESTER MATUNDA
MUHAS

RE: APPROVAL FOR ETHICAL CLEARANCE FOR A STUDY TITLED: FACTORS ASSOCIATED WITH COMPLIANCE TO ANTENATAL HIV RE-TESTING AMONG POSTPARTUM WOMEN AT BUGURUNI HEALTH CENTRE IN ILALA MUNICIPAL COUNCIL, DAR ES SALAAM, TANZANIA

Reference is made to the above heading,

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

APPROVAL DATE: 02/04/2024
EXPIRATION DATE OF APPROVAL: 02/04/2025

STUDY DESCRIPTION:
Purpose:

The purpose of this analytical cross sectional study is to assess the factors associated with compliance to antenatal HIV re-testing among postpartum women at Buguruni Health Centre, Tanzania.

The approved protocol and procedures for this study is attached and stamped with this letter, and can be found in the link provided: https://irb.muhas.ac.tz/storage/Certificates/Certificate%20-%2014554.pdf and in the MUHAS archives.

The PI is required to:

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



Dr. Nahya Salim Masoud,

Chairperson, MUHAS Research and Ethics Committee

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.440/2022 05th April, 2024

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

Re: INTRODUCTION LETTER OF MARY SYLIVESTER MATUNDA

The bearer of this letter is Mary Sylivester Matunda (HD/MUH/T.440/2022), a student at Muhimbili University of Health and Allied Sciences (MUHAS) pursuing MSc. Midwifery and Women's Health.

As part of her studies she intends to do a study titled: **"Factors Associated with Compliance to Antenatal HIV Re-Testing Among Postpartum Women at Buguruni Health Centre in Ilala Municipal Council, Dar es Salaam, 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.

Mr. Sebe Mohamed
For: DIRECTOR, POSTGRADUATE STUDIES

c.c. Mary Sylivester Matunda

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: Permission letter

JAMHURI YA MUUNGANO WA TANZANIA
OFISI YA RAIS
TAWALA ZA MIKOA NA SERIKALI ZA MITAA

MKOA WA DAR ES SALAAM
Anwani ya Simu:
Simu: 2203156/2203158
Fax: 2203213
Barua Pepe: ras@dsm.go.tz
Unapojibu Tafadhali taja:
Kumb. Na. EA.260/307/02E/78

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

9 Aprili, 2024

Mkurugenzi wa Jiji,
Halmashauri ya Jiji la Dar es Salaam,
DAR ES SALAAM.

YAH: **KUMTAMBULISHA NDG. MARY SYLVESTER MATUNDA**

Tafadhali husika na mada tajwa hapo juu.

2. Ofisi hii imepokea barua yenye Kumb. Na. $AB_3/_{12}$(B) tarehe 30 Machi, 2024 kutoka Chuo Kikuu cha Sayansi Muhimbili ikimtambulisha na kumuombea kibali cha kufanya utafiti katika Halmashauri yako **Ndg. Mary Sylvester Matunda** wa Chuo Kikuu cha Sayansi Muhimbili (MUHAS).

3. Mwanachuo huyu anafanya utafiti kuhusu "***Factors Associated with Compliance to Antenatal HIV Re-Testing among Postpartum Women at Buguruni Health Centre in Ilala Municipal Council, Dar es Salaam - Tanzania".*** Aidha, utafiti huu utafanyika kuanzia tarehe **31 Machi, 2024** hadi tarehe **11 Septemba, 2024.**

Kwa barua hii, tafadhali mpeni ushirikiano atakaohitaji.

Lawrence P. Malangwa
Kny: **KATIBU TAWALA MKOA**
DAR ES SALAAM

Nakala: Makamu Mkuu wa Chuo,
Chuo Kikuu cha Sayansi Muhimbili (MUHAS).
S. L. P. 65001,