UNIVERSITY OF LUSAKA

SCHOOL OF MEDICINE AND HEALTH SCIENCES

FACTORS LEADING TO POOR RETENTION OF WOMEN UNDER PREVENTION OF MOTHER TO CHILD TRANSMISSION PROGRAM AT CHILENJE LEVEL 1 HOSPITAL

BY

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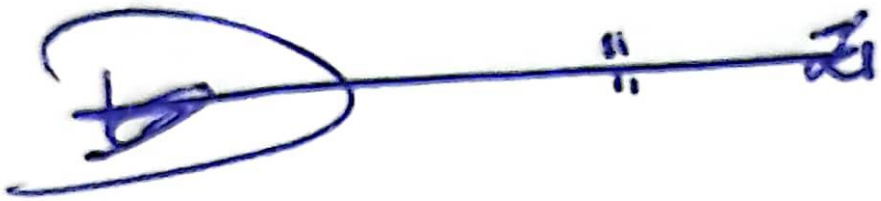
A research dissertation submitted to the University of Lusaka in partial fulfillment of the requirements of a Degree in Bachelor of Science in Public Health

DECLARATION

Name of student and ID: Sanawezi Dias, BSPH19217315

I declare that this dissertation is my creative work and to the best of my acquaintance has not been presented for a degree in any other institution.

Signature:



Date: 29/09/2023

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This dissertation has been submitted with my approval as a University of Lusaka (UNILUS) supervisor.

School of Medicine and Health Sciences, Department of Public Health

Signature: **Date:** 25/05/2023

DEDICATION

I would like to thank the Almighty God for his Faithfulness and for giving me the strength to go through all hurdles to get to where i am in life. I dedicate this work to my family who give me unconditional love and support. You give me strength to keep going day by day and I will forever be thankful.

ACKNOWLEDGEMENT

Am grateful to God almighty for what he has done for me through my academic journey from the time l started my program till the end. I also thank my family for their unconditional support. A special thank you to my supervisor Mr. Timothy M Chabu for the guidance he gave me throughout this research. Other thanks go to all my classmates and all the lecturers at the University of Lusaka that contributed and made it possible for me to complete my Degree in Bachelor of Science in Public Health.

ACRONYMS

LTFU	**Loss to follow-up**
MOH	Ministry of health
PMTCT	Prevention of Mother to Child Transmission
MTCT	Mother-to-Child Transmission

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ABSTRACT

Introduction: Mother-to-Child Transmission (MTCT) occurs when HIV is transmitted from a mother who is infected to her baby through the placenta during pregnancy or through blood contamination during childbirth, or through breast-feeding after birth. (Ministry) of Health HIV Guidelines (2020).

Main objective: To explore factors that lead to poor retention of women under the PMTCT program at Chilenje Level 1 Hospital.

Methodology: A qualitative approach was used. This study was conducted from Chilienje level 1 hospital. This study focused on HIV-positive pregnant mothers at least between the ages of 15 and 49 years. This research will target 30 participants. The study used a purposive sampling. A semi-structured interviews guide. The data was analyzed thematically.

Results: Participants reported having faced or facing challenges related to fear of stigmatization, lack of transport, poor support from the family, the experience with the health care provider and their attitude were barriers identified to accessing PMTCT program. Findings from the study showed that determination, a four-tier support system, and an inspiring health package enabled retention in the PMTCT program.

Conclusion: This study identified that treatment by health care workers, victimization, fear of stigmatization, lack of transport, poor support from family, experience with the health care provider were factors that led to poor retention of women under the PMTCT program.

CHAPTER ONE: INTRODUCTION

1.2 Overview

This chapter gives an outline of the background to this study. It begins with a background of the topic under investigation from a broad perspective and then narrows it down to the Zambian context. Thereafter, the chapter presents the problem under investigation, justification of the study, general research objective, specific research objective and the research questions through which the objectives are addressed.

1.3 Background

Mother-to-Child Transmission (MTCT) occurs when HIV is transmitted from a mother who is infected to her baby through the placenta during pregnancy or through blood contamination during childbirth, or through breast-feeding after birth. (Ministry) of Health HIV Guidelines (2020). Mother to Child Transmission of HIV is still a challenge affecting many countries. Globally, In 2021, approximately 38 million people worldwide are living with HIV, and 1.8 million people were newly infected with HIV (United Nations Program on HIV/AIDS (UNAIDS,2021; Henry J Kaiser Family Foundation, 2021). HIV/AIDS is one of the leading causes of mortality among women of reproductive age. For children, globally, an estimated 180, 000 children under 15 years acquire HIV every day, and more than 90% of those infections are due to MTCT of HIV (UNAIDS, 2020). Furthermore, 90% of MTCT of HIV occur in sub-Saharan Africa (SSA) (UNAIDS, 2020a)

Without Prevention of Mother to Child Transmission (PMTCT), it has been reported that 15–30% of babies born to HIV positive women will be infected during pregnancy and delivery, and a further 5–20% through breastfeeding (Obai et al., 2016; Kameel Mungrue, 2017).

Prevention of Mother-to-Child Transmission (PMTCT) programs offer a range of services for women of reproductive age living with or at risk of HIV to maintain their health and prevent their infants from acquiring HIV. PMTCT programs have become one of the most important areas of intervention that prevents the spread of HIV among infants. The aim of PMTCT programs is to reduce the spread of HIV from mothers to their babies, however the programs have been characterized by several challenges among them loss to follow up of exposed infants

(Mbata et al,2021). For instance, one study in Nigeria observed that out of 31,504 women who entered PMTCT care during antenatal period, only 60% (20,679) concluded the program (Mpinganjira et al.,2020).

A complex of array of factors such as culture, economical and psychological create barriers for women living with HIV to fully participate in PMTCT programs (Kanguya et al.,2020). The factors include lack of knowledge regarding PMTCT, the perception of health workers as authority figure, intent to shorten the life of the infant, fear of disclosure of their own and the Childs status, negative attitudes of health workers, lack of male partner support, stigma, poor maternal postpartum adherence, intimate partner violence and fear of knowing the child status (Turan et al.,2017). Similarly, mothers seeking PMTCT services have reported diverse experiences some of which hinder their full participation in MTCT programmes(Abebe et al.,2019).

1.4 Statement of the problem

Poor retention through loss to follow-up (LTFU) and death remains a common setback in both HIV and prevention of mother-to-child transmission (PMTCT) programs. Owing to diminished ease of patient monitoring, poor retention of women in PMTCT programs has been reported to be associated with increase in viral load, clinical and immunological deterioration, increased chances of vertical transmission of HIV to offspring, and increased resistance to ARV drugs (Ndaimani A, et al, 2019).

Despite some innovative efforts by the Zambian Government at various levels of health care to improve retention, they have not greatly paid off in public health practice due to technical and sustainability issues. Furthermore, there is dearth of qualitative studies that tend to highlight lived experiences of women under the PMTCT programs at community level. This knowledge gap is detrimental to the development and implementation of strategies that would effectively counter low retention. Hence, the need to explore factors that leading to poor retention at a hospital facility.

Despite the many efforts by the Zambian Government at various levels of health care on establishing Prevention of Mother to Child Transmission (PMTCT) programs in Zambia.

1.5 Justification of the study

Due to the ever-increasing cases of positive women in childbearing age which stands at 11% according UNAIDS (2021), further leading to an increase of HIV positive women getting pregnant and poor uptake of MTCT, especially during breastfeeding. There is a need to understand the experiences of mothers on PMTCT programmes.

This study sought to explore factors that lead to poor retention of women under the PMTCT program at Chilenje Level 1 Hospital. Information from this study will be used to make recommendations to policy makers, help design strategies to any experiences which act as barriers to or contribute to low uptake of PMTCT services. The study will also add to the existing body of knowledge. The findings may also help in designing strategies for improving Information Education and Communication to both affected mothers and the general community on the importance of adhering to the PMTC programme for HIV exposed children.

1.6 Research Objectives

1.6.1 General research objective

To explore factors that lead to poor retention of women under the PMTCT program at Chilenje Level 1 Hospital

1.6.2 Specific Research Objectives:

1. To understand the barriers of retention of women in PMTCT program at Chilenje Level 1 Hospital
2. To explore the enablers of retention of women in PMTCT program at Chilenje level 1 hospital
3. To find out the knowledge level among the pregnant women living with HIV with regards to PMTCT

1.7 Research Question:

1. What are the barriers of retention of women in PMTCT program at Chilenje Level 1 Hospital?
2. What are the enablers of retention of women in PMTCT program at Chilenje level 1 hospital?
3. What is the knowledge level among the pregnant women living with HIV with regards to PMTCT?

1.8 Chapter Summary

This chapter has looked at the background of factors that lead to poor retention of women under the PMTCT program at Chilenje Level 1 Hospital. A complex of array of factors such as culture, economical and psychological create barriers for women living with HIV to fully participate in PMTCT programs. This chapter also looked at the statement of the problem. Poor retention through loss to follow-up (LTFU) and death remains a common setback in both HIV and prevention of mother-to-child transmission (PMTCT) programs. This chapter also looked at the justification. Information from this study will be used to make recommendation to policy makers, help design strategies to any experiences which act as barriers to or contribute to low uptake of PMTCT services.

CHAPTER TWO: LITERATURE REVIEW

2.2 Overview

Literature review refers to the process of taking stock of existing knowledge in order to make informed choices about policy, practice, research direction and resource allocation (Cronin, Ryan, & Coughlan, 2018; Polit & Beck, 2018). It involves identification and analysis of relevant publications that contain information pertaining to the research problem. The major purpose of reviewing literature is to discover what is already known about the problem. It also provides the understanding and insight necessary to develop a logical framework. In general, the review of literature provides important information regarding what has been done and what needs to be done in relation to the research problem. The focus in this chapter is to review the different publications on experiences of mothers on Prevention of Mother to Child Transmission of HIV.

2.3 The difficulties that pregnant women with HIV who are taking PMTCT.

Lack of PMTCT coverage and adherence results in significant numbers of pediatric HIV infections. The World Health Organization recommends universal HIV treatment for all HIV-infected children under the age of 5, but less than one quarter of children under 5 start ART. Although infants born to HIV-positive mothers should be screened at age 4 to 6 weeks for HIV infections, fewer than 1 in 5 infants in resource-limited settings receive this test (Kellerman & Essajee, 2017).

Once HIV-positive children are lost to follow-up from the PMTCT system, it is likely that they will not re-enter the healthcare system for some time. Caregivers may not take children for testing or treatment, especially if they do not show signs of illness, and up to one third of HIV-positive infants will not show symptoms of HIV/AIDS until their teens (Ahmed et al., 2018). Active follow-up of those who default from care may be a critical measure, with one meta-analysis showing that HIV-positive infants who were not actively followed up had more than 6 times the risk of dropping out of care (Nduati et al., 2017).

2.3.1 Fear of stigma

In a report by WHO (2019) entitled Towards the prevention of mother-to-child transmission of HIV in low-prevalence and concentrated epidemic settings in Eastern Europe and Central Asia, it was highlighted that despite the great efforts to reach every HIV positive woman during pregnancy and after delivery through PMTCT, there has been evidence of those missed. One of the major reasons for women missing out on PMTCT services emanates from women's fear of discrimination and stigma. Another reason is that of drug users who tend to take time to visit health facilities during pregnancy with some women only discovered to be HIV positive when already in labour.

In a qualitative, exploratory, and descriptive study conducted by Mbata et al., (2021) in Eswati on the perceptions and experiences of HIV-positive pregnant mothers regarding the prevention of mother-to-child transmission (PMTCT) which is a small country but highest in HIV prevalence globally, it was discovered that mothers had positive attitude towards Option B+. They respondents stated that PMTCT helps to boost immunity and at the same times helps in delivery of a healthy baby free from HIV. Despite having such an attitude, the mothers expressed worry in utilization of option B+ as they feared to be discriminated by their families. Significant barriers to PMTCT uptake have been noted across multiple studies, and even with the provision of fully integrated HIV and ANC services (Sidibé & Goosby, 2018; Washington, Owuor, & Turan, 2019). In a meta-analysis of barriers to uptake of ART for PMTCT in sub-Saharan Africa, Gourlay and colleagues (2013) identify stigma and fear of disclosure of HIV status (to sexual partners, family members, and community members) as the most salient barriers across more than 40 studies. Stigma was mentioned in nearly all qualitative studies examined, and in quantitative studies, non-disclosure of HIV status to partners was associated with lack of ART uptake among HIV-positive pregnant women in several studies (Busza et al., 2018, p. 3; Gourlay, Birdthistle, Mburu, Iorpenda, & Wringe, 2019).

In a review of global studies of ART initiation, adherence, and retention among HIV-positive pregnant women, Hodgson et al. (2014) identified very similar factors, including the negative impact of stigma and fear of disclosure of HIV status. Another global meta-analysis found that barriers to optimal adherence for HIV-positive pregnant women included physical, economic, and emotional stress, depression (especially postpartum), alcohol or drug use, and ART pill

burden (Nachega et al., 2019; UNAIDS, 2020). Turan and Nyblade, in a review of the impact of HIV-related stigma on PMTCT, concluded that stigma negatively impacts uptake and adherence of each step of the PMTCT cascade (Adetokunboh & Oluwasanu, 2015; Turan & Nyblade, 2021).

2.3.2 Physiological and demographic factors

Another review which examined barriers to PMTCT and maternal and newborn child health identified four types of barriers: socioeconomic, social norms and knowledge, physiological, and psychological (O hIarlaithe, Grede, de Pee, & Bloem, 2017; Zeng et al., 2018). A study which followed up all PMTCT patients who had dropped out of care at a large ANC clinic in Malawi (constituting 20% of all women in the PMTCT program) found that over half had stopped taking ART, and that the most common reasons for dropping out of care were challenges with travel or transport money (54%), not understanding the ART education provided (10%), being too weak or sick (10%), and experiencing ART side effects (10%) (Cowan et al., 2017; Marcos et al., 2017; Tweya et al., 2018).

Although not well studied, the quality of care provided by health care staff may also be a critical determinant of retention in PMTCT. Qualitative investigation in Kisesa, Tanzania found that women seeking PMTCT services perceived power imbalances in favor of health care providers, and often did not understand the information communicated to them by providers, resulting in missed services (Gourlay et al., 2018). Pregnant women also reported being treated disrespectfully by providers, and such negative behavior or the fear of such treatment negatively influenced PMTCT adherence.

The critical step of HIV testing during pregnancy is often overlooked (Bhardwaj, Carter, Aarons, & Chi, 2017; Ferguson et al., 2017). Barriers to testing during pregnancy may including not perceiving risk of HIV, lack of motivation or self-efficacy, poor mental and physical health (Busza et al., 2018; Nachega et al., 2018). Due to intra-family household dynamics, women may lack financial resources to travel to medical facilities or fear violence from their husbands or male partners if they receive an HIV diagnosis (Busza et al., 2012; Wettstein et al., 2012). The support of husbands or partners and others members of family or social networks is associated with women accepting and adhering to ART as well as receiving antenatal care in a health care

facility (Busza et al., 2017; UNAIDS, 2018). Conversely, women who feel stigmatized are less likely to be ART adherent (Busza et al., 2020; Kellerman & Essajee, 2021).

There are humanitarian emergencies such as those caused by natural disasters and conflict than can also greatly disrupt access to PMTCT services and ART for mothers and children (UNICEF, 2017). By such humanitarian emergencies health services break down and the availability of ART and other essential commodities can be threatened (UNICEF, 2018). UNICEF recommends that HIV prevention, treatment, and care for infants and children should be prioritized in emergency planning. Contingency planning and partnerships between governments, NGOs, and other actors to trace patients and ensure supply chains of essential drugs can be critical in ensuring that ART can continue to be offered in situations of conflict and upheaval (UNICEF, 2018). The Inter-Agency Standing Committee Task Force on HIV, a collaboration of UN agencies and non-governmental organizations, has published guidelines on responding to HIV in humanitarian emergencies (Inter-Agency Standing Committee (IASC), 2018).

2.4 The knowledge level among the pregnant women with HIV with regards to PMTCT

In a study by Ramoshaba (2017) on Knowledge and Awareness of MTCT and PMTCT Post-Natal Follow-up Services among HIV Infected Mothers in the Mankweng Region, South Africa, the study discovered that majority of the mothers living with HIV did not have much information on risk of Mother to Child Transmission after birth, hence they did not see any need to have their children tested for HIV. Furthermore, the mothers had knowledge on importance of adherence to treatment as prevention of MTCT, hence did not see any need of their children being screened for HIV. This is similar to the findings of Alemu et al(2018) who conducted a across section study on Mother's knowledge on prevention of mother-to-cd transmission of HIV in Ethiopia ,where they observed that only 52% of the respondents had high knowledge on PMTCT, of those who had knowledge, the majority were those aged below 30years, while those aged 35 and above had low knowledge on PMTCT. This entails that most of the people have knowledge on PMTCT, but other factors are contributing.

Furthermore, according to a study by Alemu et al (2018), mothers with high education level such as secondary and above had knowledge of PMTC hence their children attended HIV testing follow up visits. In addition, women from rural areas who had low knowledge of PMTC resulted

in missing the HIV testing follow up visits, this is parallel to the observations of Phumzile et al (2019) in Swaziland on Knowledge, Attitude and Practices Associate with Post –natal PMTCT in Breastfeeding Mothers Living with HIV, which was a facility-based cross-section design using self-administered questionnaire to extract data from participants was utilized. The study discovered that the knowledge levels were good at (77.8%) of those with high knowledge, while (90%) had a positive attitude concerning PMTCT, but the practice was not good owing to fear of stigma and discrimination among family members, on- disclosure of HIV status to sexual partner, poor social status such as poverty and the assumed possible future side effects of anti-retroviral therapy.

In another a cross section study conducted study by Ngadaya.E et al (2021) on Knowledge and utilization of prevention of mother-to-child transmission on HIV services among pregnant women in Tanzania in a cross section study , it was observed that (67.6%) of HIV positive mothers had adequate knowledge on HIV and MTCT .In addition (65.3%) respondents knew that they needed to take ARVs during pregnancy, but the overall participants did not have comprehensive knowledge of how taking the antiretroviral.

In 2016, it was estimated that 83% of all pregnant women in Zambia were tested for HIV and 95% of those diagnosed with HIV, accessed ART. However, only 37% of HIV-exposed infants had an HIV DNA-PCR test done for HIV diagnosis within the first 2 months of life and only 46% of those with HIV positive tests accessed ART. Early initiation of ART for HIV-infected infants is critical because it reduces the risk of mortality by as much as 76%. Studies done in resource limited settings provided evidence that treatment of all HIV-infected pregnant women with ART (Option B+), followed by simplified prophylaxis and treatment algorithms for their infants resulted in low mother-to-child-transmission rates below 5% in breastfeeding populations (Muyunda,2017).

Early Infant Diagnosis (EID) is defined by the World Health Organization (WHO) as virologic testing of HIV-exposed infants by 2 months of age and is a key PMTCT intervention recommended by the WHO and adapted by the Zambian Ministry of Health. EID is challenging to implement in resource limited settings like Zambia because it requires the use of DNA-PCR which is only available at molecular laboratories in major cities. Maternal antibodies remain detectable in HIV exposed infant's serum until 9–12 months of age, therefore, molecular

techniques such as DNA-PCR are the definitive tests to detect HIV infection among infants. DNA-PCR gives reliable results and is effective at identifying infants infected in utero who have the highest risk of disease progression and mortality (Ministry of Health,2018).

2.5 Theoretical and conceptaul framework

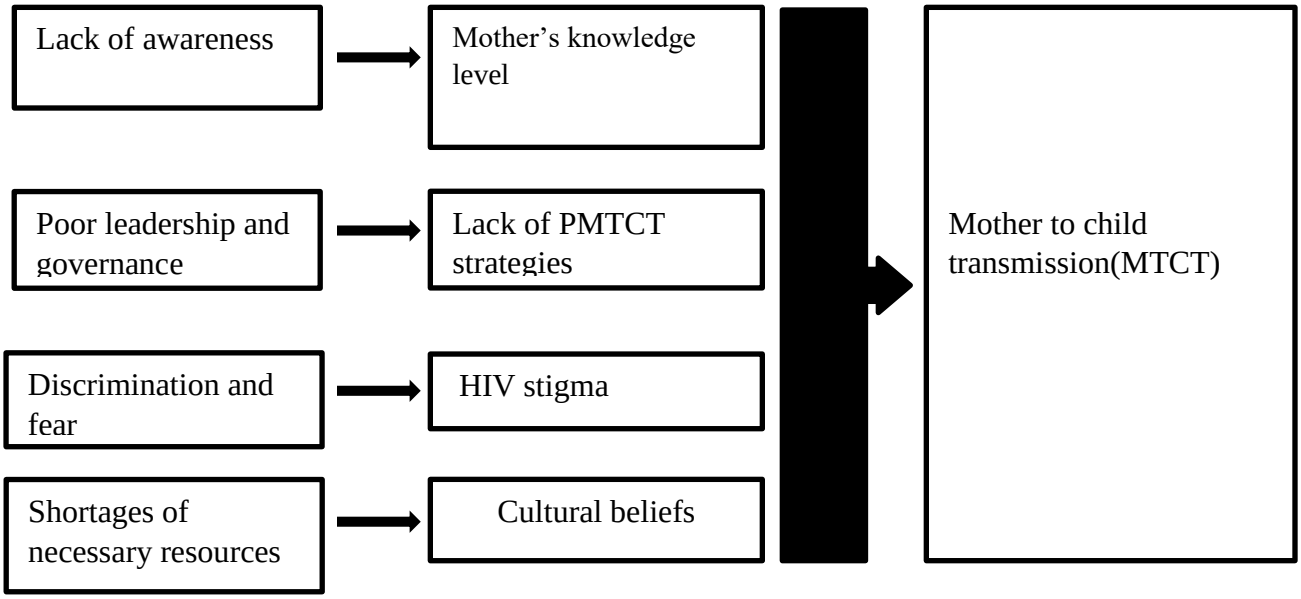
2.5.1 Health belief model

The model constitutes the interaction of patient related factors, health system related factors and providers factors. The Health Belief model was first developed by Rosestock in 1966, and later modified by Becker and colleagues in the 1970's and 1980's (Raingruber, 2017: 57). The model initially entailed four seminal constructs, namely: perceived susceptibility, perceived severity, perceived barriers, and perceived cost of adhering to interventions. Perceived susceptibility refers to an individual's perception of the health problem's relevance to her/ him, that the diagnosis is correct, and that the severity of the particular health problem is likely to have negative consequences. Compliance/ adherence is influenced by the person's perception of the threat posed by a health problem and the value attached to actions aimed at reducing the threat (Raingruber, 2017: 57; Polit & Beck 2017: 124). Becker and colleague further developed the model to incorporate people's responses to symptoms of illnesses and their compliance to medical directives. The model was further modified to include illness behaviour, preventative health, and health screening. Factors such health motivation, perceived control, perceived threat, demographic and socio-psychological factors were also later added to the model. The motivation to seek health or adherence to treatment is therefore dependent on perceived susceptibility to illness, perceived seriousness, perceived benefits, and selfefficacy (Raingruber 2017; Polit & Beck 2017: 124).

This model will help in understanding the interaction of patient related factors, health system related factors and healthcare providers factors and how they lead to poor retention of women under the PMTCT program.

2.5.2 Conceptual framework

INDEPENDENT VARIABLES **DEPENDENT VARIABLES**



2.6 Research Gap

While many studies have researched on mothers under PMTCT, most studies were quantitative in nature, and therefore lacked the lived experiences of the affected participants. Furthermore, a myriad factor affects settings differently with regards to low retention. Therefore, there is need to explore local factors to develop homegrown interventions.

2.7 Chapter summary

The reviewed literature highlighted that the major factors leading to poor retention or loss to follow up included the negative impact of stigma and fear of disclosure of HIV status. Another global meta-analysis found that barriers to optimal adherence for HIV-positive pregnant women

included physical, economic, and emotional stress, depression (especially postpartum), alcohol or drug use, and ART pill burden.

Many findings showed that stigma negatively impacts uptake and adherence of each step of the PMTCT cascade, and the overall participants did not have comprehensive knowledge of how taking the antiretroviral. The research gap also revealed that most studies were quantitative in nature, and therefore lacked the lived experiences of the affected participants. Furthermore, a myriad factor affects settings differently with regards to low retention.

CHAPTER THREE: METHODOLOGY

3.2 Overview

This chapter presents the methodology used in this study and is organized under the following sections: research design, research setting, study population, sample size, sample selection, inclusion and exclusion criteria, data collection tools, data collection technique, validity and reliability, plan for data management and analysis and ethical consideration.

3.3 Research Design

A qualitative approach was used with a descriptive survey design. Epistemology concerns the philosophical study of knowledge and 'the grounds upon which we believe something to be true' (Oliver, 2010:35). A phenomenographic approach concentrates on the relation between the experiencer and the phenomenon (Marton and Booth, 1997). A descriptive survey design is a scientific method which involves observing and describing the behavior of a subject without influencing it in any way. According to Lambert (2013), descriptive study design allows for the comprehensive summarization, in everyday terms, of specific events experienced by individuals or groups of individuals. The authors suggest that this research design should be used when a straightforward description of a phenomenon is desired. Qualitative study is a widely cited research tradition and has been identified as important and appropriate for research questions focused on discovering the who, what, and where of events or experiences and gaining insights from informants regarding a poorly understood phenomenon. It is also the label of choice when a straight description of a phenomenon is desired, or information is sought to develop and refine questionnaires or interventions. The focus of this study is on factors that lead to poor retention of women under the PMTCT program at Chilenje Level 1 Hospital.

3.4 Research Setting

This study was conducted from Chilenje level 1 hospital. Despite Chilenje servicing a very huge community, there has been no study with the current scope that has been conducted at the site which makes the setting the suitable setting for conducting this research. The facility is situated in Chilenje, Lusaka district.

3.5 Study population

This study focused on HIV-positive pregnant mothers at least between the ages of 15 and 49 years.

3.6 Sample Size

The sample size was attained when the researcher reached a theoretical saturation, according to Glaser and Strauss (2009), they stated that in qualitative research is very difficult to determine the sample size prior to data collection because usually participants may have vast information and it varies from participant to another. However, this research target ed30 participants.

3.7 Sample Selection

The study used a purposive sampling of HIV-positive pregnant mothers at least between the ages of 15 and 49 years. The justification for this technique of sampling rests on the facts that the researcher desires to get detailed opinions and experiences from participants. Therefore, purposive sampling allowed the researcher to choose specific participants, who fulfill the interest of the research (Silverman, 2017; 2018).

3.8 Inclusion and Exclusion Criteria

3.8.1 Inclusion Criteria

The selection criterion for the study participants were:

1. HIV-positive pregnant mothers at least between the ages of 15 and 49 years.
2. Women enrolled in the PMTCT program during the current pregnancy.

3.8.2 Exclusion Criteria

The exclusion criterion for the study participants were:

1. Pregnant mothers enrolled in the PMTCT programme during the current but unable to be interviewed due to physical mental instability.
2. Pregnant mothers enrolled in the PMTCT programme but are not willing to participate in the study.

3.9 Data Collection Technique

A semi-structured interviews guide was used to collect data on on factors that lead to poor retention of women under the PMTCT program at Chilenje Level 1 Hospital. The interviews were audio-recorded with the participants' permission. To ensure anonymity of the study participants, the participants were given numbers by which to identify them.

3.10 Data Management and Analysis

Audio recorded information was kept in a computer secured by a password to promote confidentiality. The data will be analyzed thematically. Thematic analysis is a method of analyzing qualitative data. It is usually applied to a set of texts, such as an interview or transcripts. The researcher closely examined the data to identify common themes topics, ideas and patterns of meaning that come up repeatedly. There are various approaches to conducting thematic analysis, but the most common form follows a six-step process: familiarization, coding, generating themes, reviewing themes, defining, and naming themes, and writing up. This process was originally developed for psychology research by Virginia Braun and Victoria Clarke (2017). However, thematic analysis is a flexible method that can be adapted to many kinds of research. To maintain confidentiality, participants were given codes which were used to identify different voices by the note-taker and used when transcribing and referencing quotations. Each participant had a unique identifying number written on the focus group discussion forms, in notes taken, and used name audio files and transcript documents. If a name was mentioned by a participant, it was not disclosed during the transcribing, analysis or report writing and the participants were assured of this. Individual interviews were coded, and names were not used to identify any speakers. Paper transcripts were locked in a secure cupboard. The voice recorder with the interviews was also kept secure, and all information gathered during the interviews were kept confidential and participants were assured of this.

3.11 Trustworthiness and Rigor

To ensure trustworthiness and rigor of the data to be collected, participants' own words will be used to present the findings in line with the research questions. Trustworthiness in qualitative research refers to the extent to which qualitative data is dependable, consistent, stable, predictable, and reliable so that whenever it is put to test, it produces the same data. Credibility is

one of the key concepts used in addressing quality in qualitative studies. A member check technique will be used in assuring the accuracy of the data that will be gathered in this study. Member check is the process of verifying information with the target group. It allows the stakeholders or the participants the chance to correct errors of facts or errors of interpretation (Lambert and Lambert, 2012).

Harper and Cole (2012) asserted that member checking continues to be an important quality control process in qualitative research as during conducting a study; participants will receive the opportunity to review their statements for accuracy. After writing the findings of the report the researcher will go back to key informants of the study and present to them the written report so that they can confirm if it is a true reflection of what was said by them.

3.12 Ethical Considerations

It is important to put into consideration ethical issues in research to prevent potential harm that might be caused by the researcher to the participants (Kasonde, 2013). This is an important aspect of the study as it also helps to establish trust between the researcher and the participants who need to know and understand what is going to happen to the information they provide.

The researcher throughout the research will endeavor to uphold utmost privacy on the rights of respondents.

To this effect, ethical clearance was obtained from the University of Lusaka Research Ethics Committee. Written permission to conduct the research was obtained from Lusaka District Health Office (LDHO) and the National Health Research Authority of Zambia (NHRA) respectively. Each participant was briefed about the purpose of the study and was also informed that all information shared with the researcher was confidential. Consent was obtained from every participant spoken with. The researcher adhered to principles of autonomy, respect for individual and their right to determine their lives.

Anonymity and confidentiality were ensured by use of serial numbers. The study's objectives were explained to the HIV-infected mothers whose infants were vertically infected with HIV and it was emphasized that the information obtained from the study would be treated with utmost confidentiality and that anyone was at liberty to decline participation. It was also emphasized that declination to participate did not affect the care and treatment of their HIV-infected infants.

For women/mothers who may become anxious and stressed to narrate experiences related to their HIV infants did no force to narrate or can suggest when they felt free to narrate, they can suggest another day.

Names of participants did not appear on the data collection tools. Participants volunteered to participate in the study without any coercion. Participants had the right to decide at any point to terminate their participation, refuse to give information, or to ask for clarification about the purpose of the study or specific study procedures without any repercussions. If a name was mentioned by a participant, it was not disclosed during the transcribing, analysis or report writing and the participants were assured of this. Individual interviews were coded, and names were not used to identify any speakers. Paper transcripts were locked in a secure cupboard. The participants were assured that their status or privacy was not disclosed because their names were not indicated.

CHAPTER FOUR: PRESENTATION OF THE FINDINGS

4.2 Introduction

This chapter presents information collected in the field on factors that lead to poor retention of women under the PMTCT program at Chilenje Level 1 Hospital. The objectives of this study were to understand the barriers of retention of women in PMTCT program at Chilenje Level 1 Hospital, to explore the enablers of retention of women in PMTCT program at Chilenje level 1 hospital and to find out the knowledge level among the pregnant women living with HIV with regards to PMTCT. Excerpts of participants of in-depth interviews (IDIs) indicated in italics, are used in this chapter to substantiate the themes generated.

4.3 Social demographic characteristics of the study population

This section lists the respondents' characteristics by age, gender, marital status, level of education, and occupation. 30 respondents participated in the study, yielding a response rate of 100%.

With regards to age, majority of the respondents of were in the age range of 27-32 were 14(47%), those in the age range of 21-26 were 6(20%), those in the age range of 33-44 were 8(27%) and those in the age range of 45-49 were 2(6.6%), With regards to gender, majority all the respondents were females 30(100%). With regards to marital status, majority of the respondents were married with 19(63%), those singles were 9(30%), those divorced were 2(6%0 and widowed there was none.

With regards to number of children, those with children in the range 1-3 were 25(873%) and those in the range 4-6 were 5(17%). With regards to occupation, those who were employed were 5(16%), those who were not employed were 18(60%) and those who were self-employed were also 7(23%). With regards to residential area, those who stay within Chilenje community were 23(77%) and those who stay outside Chilenje community were 7(23%). With regards to the level of education, many of the respondents are those with primary education were 22(73%), those with secondary education were 8(27%), those with tertiary education there was none.

4.3.1 Table 1: Social Demographic Characteristics of Study Population

Variable		Frequency (N=30)	Percentage (%)
Age	15-20	0	0
	21-26	6	20
	27-32	14	47
	33-44	8	27
	45-49	2	6.6
Total		30	100
Sex			
	Female	30	100
Total		30	100
Marital status	Single	9	30
	Married	19	63.3
	Divorced	2	6.7
	Widowed	0	0
Total		30	100
Number of children	1-3	25	83
	≥4	5	17
Total		30	100
Occupation	Employed	5	16
	Not employed	18	60
	Self-employed	7	23
Total		30	100
Residential address	Within Chilenje	23	77
	Outside Chilenje	7	23
Total		30	100
Education Status	No formal education	0	0
	Primary	22	73
	Secondary	8	27
Total		30	100

4.4 Barriers of retention of women in PMTCT program

Participants reported having faced or facing challenges related to fear of stigmatization, lack of transport, poor support from the family, the experience with the health care provider and their attitude were barriers identified to accessing PMTCT program.

4.4.1 Fear of stigmatization

The fear of stigmatization was the most reported barrier to PMTCT program uptake among participants. According to the participants, being stigmatized because of an HIV-positive status or when accessing HIV care was reported to limit PMTCT program. This theme supported the social-ecological model that states that environmental factors may limit PMTCT program as earlier argued in this paper. When asked about the barriers to PMTCT program, a pregnant woman living with HIV described the fear of stigmatization from her husband, her culture, and children. This, therefore, is indicative that HIV stigmatization has underlying socio-cultural factors.

"I am willing to enroll for the PMTCT program uptake, but I have been hiding my HIV status from my husband because I fear him divorcing me" (Female,32 years)

*"In the community I can say that there is discrimination because when people realize that you are like that, they move away. They talk about that and that" (*Female, 35 years)

"After [the diagnosis] I noticed some difference in my partner. He started to distance himself. First, he ran away, then he didn't give any explanation as to why he was distant" (Female,27 years)

4.4.2 Lack of Transport

Lack of money to pay for bus fare when going to health facilities were highlighted as another barrier. Facilities where PMTCT program were delivered was a barrier. This is expected since the literature has highlighted socioeconomic factors as among the key barriers to the mitigation of HIV in low- and middle-income countries.

According to the participants, the money and time spent going to:

"I face challenges with transport sometimes I don't have money for bus fare so I would walk for two hours average to reach the health facility" (Female, 34 years)

"I have challenges with transport, buses are now expensive, and the economy is bad" (Female,37 years)

4.4.3 Lack of support from family

Lack support from the family was a second barrier identified to accessing PMTCT program. According to the participants, pregnant women living with HIV may want to access PMTCT program, but their families do not support them. This, therefore, was a barrier to accessing PMTCT program.

A pregnant woman living with HIV said:

"To be very honest, it is very challenging for me. I don't have support from my husband or relative. The only support I get is from the nurses or doctors serving me. Then sometimes my colleagues at work are quite supportive. But it would be very convenient for me to fully participate in PMTCT program if my husband was here with me" (Pregnant woman living with HIV, 28 years old).

But others said.

"My husband always reminds me to collect medication and adhere to medication" (Female,34 years)

4.4.4 Experience with the health care provider

This was the last theme created, and participants said that poor interactions between service providers and the patient were a barrier. This barrier can be considered a health-system issue. The current study, therefore, showed that the health-systems issue may contribute to limiting PMTCT program among pregnant women living with HIV.

A participant endorsing this theme said:

"I was not pleased the first day I came to register for PMTCT program in this facility because the nurse and social workers were so harsh that day like it was my fault that I am HIV-positive…As a result, I attempted to stop coming for PMTCT program" (Pregnant woman living with HIV, 35 years old).

But others said.

*"Very good attitude, but sometimes experiences in not good but I understand we are human" (*Female,39 years)

4.5 The enablers of retention of women in PMTCT program

Findings from the study showed that determination, a four-tier support system, and an inspiring health package enabled retention in the PMTCT program. Determination involved ignoring setbacks and focusing on PMTCT for personal, child, and spousal health. A four-tier support system meant support from spouse, family, community, including peers and clinicians. The final enabler of retention, an inspiring health package, meant being managed with ARV medicine with tolerable or no side effects, getting quality health care from accommodating clinicians, getting food aid to mitigate side effects of ART and getting tangible benefits from the PMTCT program such as giving birth to a child free of HIV infection and experiencing improvement of personal health.

4.5.1 Determination

Participants' ultimate determination either based on the desire to protect the offspring from HIV or based on knowledge about PMTCT appeared to facilitate retention in PMTCT.

"I began to take medicine. After 2 months, I quit but continued to give the child. When the child was tested at 6 months of age and found to be negative, I was glad that I had attained my goal, so I stopped PMTCT and medicine altogether" (Participant 3, FGD#3).

Other participants preferred to keep the child HIV negative while hoping that a cure for HIV would be found and they too would become negative:

"Because if we concentrate on the immediate future, how about the future of my children? … as for me I am just positive. There is a time when the cure for HIV will be found" (Participant 6; FGD#1).

For most participants, protecting the growing innocent child motivated continuation in PMTCT.

"If you stop, you lose your life…imagine leaving behind young children. The child will grow without motherly love. Nobody else besides the real mother can give such love to a child" (Participant 1; FGD#1).

For other participants, coming for PMTCT visits was a way of showing their innocence to society by not deliberately infecting anybody with HIV and demonstrating care to their children and spouses.

"If you reject [PMTCT] your child will blame you, that you did him bad, infecting him with HIV" (Participant 4; FGD4).

Finally, acceptance of HIV status was a facilitator for retention in PMTCT as women would not waste time getting retesting to confirm their HIV-positive status.

4.5.2 Four-tier Support System

Participants preferred to involve acquaintances who could keep the HIV information confidentially.

"*In my community, I may notice women in a similar situation with me. If she is approachable, I give her my advice and assistance based on my experience"* (Participant 3; FGD#2).

On the other hand, getting accepted by the spouse facilitated collective proactive planning and continual of participants in the PMTCT program.

"When we got to know that the ball had been scored (pregnancy), we took to serious planning" (Participant 4; FGD#4).

To have sustainable support, participants felt the need for social support groups for their spouses. However, findings show that sometimes peer support groups fell apart due to member absenteeism.

4.5.3 Inspiring prevention of mother-to-child transmission package

The package included favorable health care and outcomes; for example, a private consultation environment, health worker competence tolerability of ART, or knowing someone who gave birth to a child free from HIV. Complementary food handouts and conditional cash transfers offset unplanned costs incurred during PMTCT visits. In some cases, participants had been obliged to comply with PMTCT in order to get antenatal, labor and delivery and postnatal care.

Finally, convenience at health institutions encouraged women to keep coming for visits; for instance, being served quickly, traveling short distances to PMTCT sites, or getting diagnostic test results and all medicine on the same day. Flexible drug dispensing or processing of transfer in women were found to also facilitate retention in PMTCT. More so, participants felt motivated by confidentiality demonstrated by clinical counselors, nurses, or doctors unlike community health workers who could not keep secrets but “spread the news.

CHAPTER FIVE: DISCUSSION OF THE RESULTS

5.2 Overview of findings

The discussion is based on the results of interviews conducted during the study and based on three themes, barriers of retention of women in PMTCT program, the enablers of retention of women in PMTCT program and the knowledge level among the pregnant women living with HIV with regards to PMTCT.

5.3 Barriers of retention of women in PMTCT program

The theme "fear of stigmatization" revealed that participants were fearful of being stigmatized while accessing HIV care. Additionally, this theme revealed that culture contributes to fear of stigmatization, and this limits PMTCT program uptake. This theme supported the findings of researchers in the United Kingdom (UK) that fear of stigmatization was a barrier to PMTCT services uptake in sub-Saharan Africa (Gourlay et al., 2017). Additionally, Nigerian and Keyan researchers have also supported the role of stigmatization on PMTCT services uptake (Ogueji, 2021; Onono et al., 2019).

Other studies reported that women decided to keep their HIV status private and not to disclose to anybody because of fear of negative repercussion from their partners including blame, emotional and financial abandonment, physical violence, and household conflicts that may result in divorce, stigma, and discrimination. While some studies reported negative consequences, Kenyan and Zambian mothers reported improved relationships with their partners after disclosure. Those who had disclosed appeared to have stronger relationships than those who had not disclosed. Ross, Stidham, and Drew (2017), and Fadnes et al. (2018) supported that women who disclosed to their husbands and family members perceived them as having a good understanding of HIV disease, and perceived greater support from them before the HIV diagnosis.

According to the participants, being stigmatized because of an HIV-positive status or when accessing HIV care was reported to limit PMTCT program. This theme supported the social-ecological model that states that environmental factors may limit PMTCT program as earlier argued in this paper. When asked about the barriers to PMTCT program, a pregnant woman

living with HIV described the fear of stigmatization from her husband, her culture, and children. This, therefore, is indicative that HIV stigmatization has underlying socio-cultural factors. Poor interactions between service providers and the patient were a barrier. This barrier can be considered a health-system issue. The current study, therefore, showed that the health-systems issue may contribute to limiting PMTCT program among pregnant women living with HIV.

In this study, women reported struggling with the long distances to travel to a health facility. The average walking distance to the nearest hospital in our study was about two hours and many chose to walk, as they could not afford to pay for transportation. Other studies have also reported transportation to be a major hindrance to accessing care (Kanshana et al.,2018). An antenatal program in the Thyolo district in rural Malawi identified lack of transportation as a barrier to accessing EMTCT care and a reason for loss to follow up from the EMTCT program (Kanshana et al.,2018). The high dropout rate early in pregnancy resulted in women not receiving ART later during pregnancy. There is a need for an increased number of health facilities that are in close proximity to or are in rural communities.

The theme poor support from family" revealed that pregnant women living with HIV who had support from their families were able to uptake PMTCT program with fewer barriers than those without support from their families. Again, this theme aligned with the findings of the UK researchers that showed that poor support from family was a barrier to PMTCT services uptake (Gourlay et al., 2017).

With regards to the experience with the health care provider, according to this theme, pregnant women living with HIV were limited from the uptake of PMTCT program based on the poor interaction between service providers and patients (the pregnant women living with HIV). A South African study supported the last theme by reporting that client-counselor dynamics were imperative in predicting PMTCT services uptake (Varga & Brookes, 2018). Additionally, the UK report earlier cited endorsed this theme (Gourlay et al., 2017). An implication of the themes found in the current study is indicative that different factors limit pregnant women living with HIV from enrolling in/utilizing PMTCT program and this may put their unborn child at risk of contracting HIV. Therefore, the need to mitigate the barriers identified in the current study should be of concern to governments, stakeholders, and HIV-care providers.

5.4 The enablers of retention of women in PMTCT program

Findings from the study showed that determination, a four-tier support system, and an inspiring health package enabled retention in the PMTCT program. Determination involved ignoring setbacks and focusing on PMTCT for personal, child, and spousal health. A four-tier support system meant support from spouse, family, community, including peers and clinicians. The final enabler of retention, an inspiring health package, meant being managed with ARV medicine with tolerable or no side effects, getting quality health care from accommodating clinicians, getting food aid to mitigate side effects of ART and getting tangible benefits from the PMTCT program such as giving birth to a child free of HIV infection and experiencing improvement of personal health. The need by women to have HIV-negative children and be alive as the children grew up is a known enabler of retention in PMTCT. Women are generally stereotyped as careers for the sick. Sometimes, women overlook their health problems as they care for sick children, spouses, or relatives. Thus, cognitive interventions to improve maternal determination may facilitate retention in PMTCT programs.

Partner and peer support were found to enhance retention in PMTCT programs. However, findings from this study showed that it is difficult to sustain peer support as groups tend to fall apart. Findings in this study showed that empathetic clinicians, privacy, tolerable ARV side effects, and tangible efficacy of ARVs as indicated by HIV-free children facilitated retention. These factors were reported in literature to improve satisfaction with services. In a study by Ramoshaba(2017) on Knowledge and Awareness of MTCT and PMTCT Post-Natal Follow-up Services among HIV Infected Mothers in the Mankweng Region, South Africa, the study discovered that majority of the mothers living with HIV did not have much information on risk of Mother to Child Transmission after birth, hence they did not see any need to have their children tested for HIV. Furthermore, the mothers had knowledge on importance of adherence to treatment as prevention of MTCT, hence did not see any need of their children being screened for HIV. This is similar to the findings of Alemu et al(2018) who conducted a across section study on Mother's knowledge on prevention of mother-to-cd transmission of HIV in Ethiopia ,where they observed that only 52% of the respondents had high knowledge on PMTCT, of those who had knowledge, the majority were those aged below 30years, while those aged 35 and above

had low knowledge on PMTCT. This entails that most of the people have knowledge on PMTCT but other factors are contributing.

A similar study carried out by Igwegbe(2020) at Nnamdi Azikiwe University Teaching hospital in Nnewi found out that 99% of the antenatal mothers were aware of HIV/AIDS but only 76.9% were aware of mother to child transmission. The results of this study is also similar to what Carlson Babila Sama found out from his study carried out in Northwest Cameroon that all of the interviewed women were aware of HIV infection and that 76.7% had adequate knowledge on its route and only 79.3% of them were aware of mother to child transmission.. Regarding knowledge concerning PREP only 9.6% knew what it was and its uses showing that many of the mothers did not know what prep was, who qualifies/eligible for PrEP use.

CHAPTER SIX: CONCLUSIONS AND RECOMMENDATIONS

6.2 Conclusions of the study

This research study's objective was to explore factors that lead to poor retention of women under the PMTCT program at Chilenje Level 1 Hospital. This study identified that treatment by health care workers, victimization, fear of stigmatization, lack of transport, poor support from family, experience with the health care provider were factors that led to poor retention of women under the PMTCT program. Denial among the participants' partners led to a lack of support. This shows the importance of informing the population so that they can serve as support networks and thus improve adherence among women. Therefore, a relevant strategy that could be implemented in the health services is to carry out health consultations with the pregnant woman's family to educate the whole group and clarify possible doubts.

6.3 Recommendations

1. to mitigate some barriers to PMTCT program, health care workers (HCWs) should regularly conduct health education programs that promote the acceptance of pregnant women living with HIV in society.
2. HCWs should conduct regular family therapy or family counseling with pregnant women living with HIV and their families/relatives. Family therapy or family counseling should focus on how families/relatives of pregnant women living with HIV can support them to attend PMTCT program.
3. Gaps between women and men about HIV and ART need to be addressed through target messaging and stigmatization discussions so that men are encouraged to disclose their HIV status. On-going counseling and support for HIV-positive pregnant mothers encourage adherence and HIV-negative babies will be born.

REFERENCES

Barker, P.M. and Mate, K. (2019) *Eliminating Mother-to-Child HIV Transmission will Require Major Improvements in Maternal and Child Health Services.* Health Affairs, 31, 1489-1497.

Chi, B. H., Bolton-Moore, C. and Holmes, C.B. (2017) *Preventing mother to child transmission of HIV to reach UNGASS and Millennium Development Goals 2010.*

Dao, H., Mofenson, L.M., Ekpini, R., Gilks, C.F., Barnhart, M., Bolu, O., *et al*. (2017) *International Recommendations on Antiretroviral Drugs for Treatment of HIV-Infected Women and Prevention of Mother-to-Child HIV Transmission in Resource-Limited Settings*: 2016 Update. American Journal of Obstetrics and Gynecology, 197, S42-S55.

Goga, A., Jackson, D., Lombard, C., Ramokolo, V., Ngandu, N., Sherman, G., *et al*. (2018) *Highest Risk of Mother to Child Transmission of HIV or Death in the First 6 Months Postpartum: Results from 18 Month Follow-Up of an HIV-Exposed National Cohort, South Africa*. Journal of the International AIDS Society, 19, 27-28.

Gourlay, A., Birdthistle, I., Mburu, G., Iorpenda, K. and Wringe, A. (2019) *Barriers and Facilitating Factors to the Uptake of Antiretroviral Drugs for Prevention of Mother-to-Child Transmission of HIV in Sub-Saharan Africa*: A Systematic Review. Journal of the International

Holly E, R, *et al*.(2017) *HIV Status of Children Born to Mothers with HIV Infection in a Semi-Urban Area.*

Kameel Mungrue (2017) Acceptance of repeat population-based voluntary counseling and testing for HIV in rural Malawi.

Kanshana, S. and Simonds, R.(2020) *National Program for Preventing Mother-Child HIV Transmission in Thailand: Successful Implementation and Lessons Learned.* AIDS, 16, 953-959.

Marcos Y, Phelps B,R, and Bachman G. (2018) *Community Strategies that Improve Care and Retention along the Prevention of Mother-to-Child Transmission of HIV Cascade*: a Review; J Int Aids Soc, 15 (2).

Martinez Perez G, Metcalf C , Garone D, Coulborn R, Harries A, *et al.* (2017) HIV Testing and Retention in Care of Infants born to HIV-infected women enrolled in Option B+. Thyolo Malawi; Public Health Action J, 4 (2) 102–104.

Merdekios B, Adedimeji A. (2021) *Effectiveness of interventions to prevent mother-to-child transmission of HIV in Southern Ethiopia.* Int J Womens Health;3:359–66 10.2147.

Ministry of Health. (2018) *Zambia Consolidated Guidelines for Prevention and Treatment of HIV Infection.* Lusaka, Zambia: Ministry of Health, Zambia.

Mirkuzie A, H, Hinderaker S, G, Sisay M, M, Moland K, M & Morkve O. (2021) *Current Status of Medication Adherence and Infant Follow up in the Prevention of Mother-to-Child HIV Transmission Programme in Addis Ababa:* A Cohort Study, J Int Aids Soc, 14:50.

Mutale W, Michelo C, Jürgensen M, Fylkesnes K. (2019) *Home-based Voluntary HIV Counselling and Testing found highly acceptable and reduce Inequalities.* BMC Public Health;10(347).

Muyunda B, Makasa M, Jacobs C, Musonda P, Michelo C. (2017) *Higher Educational Attainment Associated with Optimal Antenatal Care Visits among Childbearing Women in Zambia.* Front Public Health;4:127.

Ndarabu A, Shaka D, Katako T, *et al.* (2017*) HIV Status of Children Born to Mothers with HIV Infection in a Semi-Urban Area in DR Congo: An Experience from Monkole Hospital Center. Women's Health & Gynaecology*;3(2):063.

Nhemachena, D. (2018) *The Rate of Postnatal MTCT of HIV Is a Great Concern to Programme Managers and Policy Makers within Johanneburg Health District.*

Obai M, *et al*. (2021) *Uptake of prevention of mother to child transmission*. A Cohort Study, J Int Aids Soc.

Obare F, Fleming P, Anglewicz P, Thornton R, Martinson F, Kapatuka A, et al. (2017) *Acceptance of repeat population-based voluntary counseling and testing for HIV in rural Malawi*. Sex Transm Inf.

Pepfar Z. (2017) *Zambia Country Operational Plan (COP) 2017, Strategic Direction Summary. Lusaka, Zambia*: US Dept of State–Presidents' Emergency Fund for AIDS Relief (PEPFAR).

Price AJ, Kayange M, Zaba B, Chimbwandira FM, Jahn A et al. (20117) *Uptake of prevention of mother to child transmission using Option B+ in Northern Rural Malawi:* A Retrospective study, Sex Transm infect, 0: 1–6.

Shisana, O., Rehle, T., Simbayi, L.C., Zuma, K., Jooste, S., Zungu, N., *et al.* (2018) *South African National HIV Prevalence, Incidence and Behaviour Survey,* 2018. HSRC Press, Cape Town.

Stringer, E.M., Ekouevi, D.K., Coetzee, D., Tih, P.M., Creek, T.L., Stinson, K., *et al*. (2018) *Coverage of Nevirapine-Based Services to Prevent Mother-to-Child HIV Transmission in 4 African Countries*. JAMA, 304, 293-302.

Thistle, P., Bolotin, S., Lam, E., Schwarz, D., Pilon, R., Ndawana, B., *et al.* (2018) *Highly Active Anti-Retroviral Therapy in the Prevention of Mother-to-Child Transmission of HIV in Rural Zimbabwe during the Socio-Economic Crisis.* Medicine, Conflict, and Survival, 27, 165-176.

Wettstein, C., Mugglin, C., Egger, M., Blaser, N., Vizcaya, L.S., Estill, J., et al. (2018) *Missed Opportunities to Prevent Mother-to-Child-Transmission*: Systematic Review and Meta-Analysis. AIDS, 26, 2361-2373.

World Health Organisation. (2017) *2017 PMTCT strategic vision –2020, preventing mother to child transmission of HIV to reach UNGASS and Millennium Development Goals 2010,* available at http://www.who.int/hiv/pub/mtct/strategic_vision/en/. Accessed 25 Sept 2017.

World Health Organization. (2018) *Guideline on When to Start Antiretroviral Therapy and on Pre-Exposure Prophylaxis for HIV.* World Health Organization, Geneva.

Zambia Demographic and Health Survey. (2017) *Central Statistical Office (CSO), Ministry of Health (MOH), Tropical Diseases Research Centre (TDRC), University of Zambia, and Macro International Inc*. 2009. Calverton, Maryland, USA: CSO and Macro International Inc., ZDHS.

APPENDIX 1

INTERVIEW GUIDE

Part i. Demographics

1. How old are you?
2. What is your marital status?
3. How many children do you have?
4. How far have you gone with education?
5. What is your occupation?

Part ii. The barriers of retention of women in PMTCT program

1. How far is your home to the health facility?
2. How does lack of money affect you from accessing PMTCT program?
3. How did your husband react when he knew that you were HIV positive?
4. How does your family behave towards you?
5. How does your partner/family support you?
6. Explain how you took it after you discovered that you were HIV positive
7. How does your family/community take you with your HIV status?
8. What does your religion say about PMTCT program?
9. What does your culture say about PMTCT program?
10. What is the attitude of the health workers when attending to you?
11. How long do you wait to be attended to?
12. How is the collaboration between you and the health workers?

Part iii. The enablers of retention of women in PMTCT program

1. How determined are you to protect your children from contracting HIV?
2. What made you accept your HIV status?
3. How do you feel when your partner/family support you?
4. How do the health workers protect your privacy?

Part iv. The knowledge level among the pregnant women living with HIV with regards to PMTCT

1. What do you know about PMTCT program?
2. What causes HIV?
3. How can you prevent mother to child transmission?
4. What do you do when you are pregnant?

THANKS FOR YOUR TIME

NATIONAL HEALTH RESEARCH AUTHORITY

Lot No. 18961/M, off Kasama Road, Chalala, P.O. Box 30075, LUSAKA

Tell: +260211 250309 | Email : znhrasec@nhra.org.zm | www.nhra.org.z m

Ref No: NHRA000026/24/01/2023 **Date:24th January 2023**

The Principal Investigator,

Dias Sanawezi,
UNILUS,
Lusaka, Zambia.

Dear Ms Sanawezi,

Re: Request for Authority to Conduct Research

The National Health Research Authority is in receipt of your request for ethical clearance and authority to conduct research titled "Factors leading to poor retention of women under prevention of mother to child transmission program at Chilenje level 1 hospital ."

I wish to inform you that following submission of your request to the Authority, our review of the same and in view of the ethical clearance, this study has been **approved** on condition that:

1. The relevant Provincial and District Medical Officers where the study is being conducted are fully appraised;
2. Progress updates are provided to NHRA bi-annually from the date of commencement of the study;
3. The final study report is cleared by the NHRA before any publication or dissemination within or outside the country;
4. After clearance for publication or dissemination by the NHRA, the final study report is shared with all relevant Provincial and District

Directors of Health where the study was being conducted, University leadership, and all key respondents.

Yours sincerely,

Acting Director/Chief Executive Officer

Ms Sandra Chilengi-Sakala,

National Health Research Authority

APPENDIX III

SCHOOL OF MEDICINE AND HEALTH SCIENCES LEOPARDS HILL CAMPUS
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SCHOOL OF MEDICINE AND HEALTH SCIENCES

RESEARCH ETHICS COMMITTEE

Ref no: IORG0010092-2023/017

Date: 15th DECEMBER, 2022

SANAWEZI DIAS - BSPH19217315

Re: RESEARCH TITLE: FACTORS LEADING TO POOR RETENTION OF WOMEN UNDER PREVENTION OF MOTHER TO CHILD TRANSMISSION PROGRAM AT CHILENJE LEVEL 1 HOSPITAL

The above research was submitted to the research ethics committee for review. The study has no major ethical problems and is approved subject to the following:

1. The study cannot be changed without express permission of the UNILUS Research ethics committee
2. Approval from the Lusaka District health Management or equivalent health authorities should be sought.
3. The study tools should be added.
4. An informed consent form should be attached and filled by all study participants (If dealing with primary data)
5. The risks and benefits should be included in the consent form.
6. Ensure before commencement that approval is sought from ZNHRA Congratulations and the committee wishes you success in your work.

Prof Kasonde Bowa

MSc(Glasgow),M.Med(UNZA),FRCS(Glasgow),FACS,FCS,DPH(LSTMH),MPH(UCL)

Chairman- UNILUS REC

Professor of Urology and Consultant Urologist

Executive Dean

University of Lusaka and University Teaching Hospital School of Medicine and Health Sciences.

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…… ……..

……..

PERMISSION FOR **SANAWEZI DIAS - BSPH19217315** TO CONDUCT A RESEARCH

STUDY AT YOUR FACILITY/ INSTITUTION/ORGANIZATION

Reference is made to the above subject matter

The University of Lusaka, School of Medicine and Health Sciences here by requests for permission for **SANAWEZI DIAS** Public Health Student to conduct research at your facility/ institution/ organization, entitled**; FACTORS LEADING TO POOR RETENTION OF**

WOMEN UNDER PREVENTION OF MOTHER TO CHILD TRANSMISSION PROGRAM AT CHILENJE LEVEL 1 HOSPITAL. The research is in partial fulfillment of the requirements for the degree of Bachelor of Science Public Health. This is purely for academic purposes and information gained in such a way will not be used in the public domain without prior authorization from the institutions/ organizations involved.

The research topic has been cleared by the University of Lusaka, School of Medicine and Health Sciences Research Ethic s Committee as per the attached copy. Data collection is expected to be done from **1st January, 2023 to 31st March, 2023**.

The University of Lusaka avails itself of this opportunity to review to your office the assurances of its highest considerations and looks forward to your timely and favorable response.

Prof Kasonde Bowa

MSc(Glasgow),M.Med(UNZA),FRCS(Glasgow),FACS,FCS,DPH(LSTMH),MPH(UCL)

Chairman- UNILUS REC

Professor of Urology and Consultant Urologist

Executive Dean University of Lusaka and University Teaching Hospital School of Medicine and Health Sciences.