

**Factors Influencing Prevention Practices of Mother-to-Child Transmission of
HIV/AIDS among Women of Reproductive Age in Ilorin, Kwara State, Nigeria**

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Degree (MPH)**

Certification

This is to certify that **Jummai Mohammed, YUSUF** with matriculation number LCU/PG/003932 carried out this research work titled “Factors Influencing Prevention Practices of Mother-To-Child Transmission of HIV/AIDS Among Women of Reproductive Age in Ilorin, Kwara State, Nigeria” in the Department of Public Health, Faculty of Basic Medical and Health Sciences, Lead City University, Ibadan, Oyo State, Nigeria for the award of Master’s Degree in Public Health (MPH) and this has not been previously submitted.

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Dedication

I dedicate this research work to Almighty Allah who has always guided and protected me throughout my stay in Lead City University, Ibadan, Oyo State, Nigeria and also to the love of my life.

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My special gratitude goes to Lead City University, Ibadan for providing me with required resources, for the successful completion of this research work

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Even though the above-mentioned institutions and persons have assisted in the process of this research work, I alone stand responsible for the errors, if any, found in the work.

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Abstract

Mother-to-child transmission (MTCT) of HIV/AIDS remains a critical public health challenge in Nigeria. Despite global efforts to eliminate MTCT, gaps persist in the uptake of prevention practice. This study investigates the factors influencing prevention practices among women of reproductive age (19-45 years) in Ilorin West and Ilorin South Local Government Areas (LGAs). The study was anchored by Precede-Proceed Model. A cross-sectional design was employed for the study, selecting 341 women through a multistage sampling technique from antenatal clinics in Ilorin South and West LGAs. Paper form questionnaire was used for data collection which assessed knowledge, attitude, perception, prevention practices, and influencing factors. Data was analysed using descriptive statistics and chi-square tests to examine associations between variables and prevention practices, using SPSS v25. The findings of this study revealed that 61.6% of women of reproductive age in Ilorin demonstrate high knowledge of prevention practices for mother-to-child transmission of HIV/AIDS. It also, showed that 65.2% of the respondents have positive attitude towards prevention practices of mother-to-child transmission of HIV/AIDS among women of reproductive age in Ilorin, Kwara State, Nigeria. Similarly, this study discovered that 67.9% of the respondents indicated a positive perception of prevention practices of mother-to-child transmission of HIV/AIDS. Furthermore, this study showed that the level of engagement in mother-child transmission of HIV/AIDS preventive practices is at 60.4%. The study also revealed that all the factors, such as partner's involvement, stigmatisation, and cultural beliefs, to some extent affects mother-to-child HIV/AIDS prevention practices. Education level was significantly associated with knowledge of MTCT prevention ($\chi^2 = 13.999$; $df=3$; $p < 0.05$), but religious affiliation and marital status had no significant association with attitudes or practices. Religion was significantly associated with stigmatisation ($\chi^2 = 11.942$; $df = 3$; $p < 0.05$) but not with partner involvement or cultural beliefs. This study concluded that while awareness of MTCT prevention is high, practice gaps persist, driven by education disparities, stigma, and male partner engagement. Therefore, this study recommended that targeted interventions should prioritize male-inclusive PMTCT programs, stigma reduction initiatives in religious communities, and tailored education for low-literacy women.

Keywords: Factors, HIV/AIDS, MTCT, Pregnant women, Prevention Practices, Women of reproductive age

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List of Acronyms

Abbreviation	Meaning
HIV	Human Immunodeficiency Virus
ART	Antiretroviral Therapy
AIDS	Acquired Immune Deficiency Syndrome
MTCT	Mother-To-Child Transmission
SSA	Sub-Saharan Africa
WHO	World Health Organization
ANS	Antenatal Screening
NNRIMS	Nigeria National Response Information Management System
ANC	Antenatal Care
PMTCT	Prevention of Mother-To-Child Transmission

Chapter One

Introduction

1.1 Background to the Study

Over the past 30 years, HIV infection has increased and has had a significant influence on the health, welfare, employment, and criminal justice sectors¹. It also affects all social and ethnic groups globally. Based on recent epidemiological data, HIV continues to be a public health concern that has a persistent negative impact on our economy, having claimed the lives of nearly 25 million people in the last three decades². Global estimates suggest that 19.2 million women were living with HIV in 2019 constituting 52% of all adults living with the infection³.

After 33 years of military control, the nation is already plagued by political instability and widespread political corruption; now, it appears set to "wipe out" the virus in a few decades⁴. However, as institutional reforms and political will to combat the illness have advanced, more people in the nation are receiving life-saving active antiretroviral therapy (ART) to improve the prognosis of those who test positive for HIV. The first two cases of AIDS in Nigeria were identified in Lagos in 1986 after being diagnosed in 1985. One of the cases included a 13-year-old girl who worked as a sex worker and was from a West African nation⁵. As AIDS was thought to be a disease exclusive to American gays, the announcement of this first case caused fear, skepticism, and denial throughout the country. The AIDS tale was viewed by some as an American effort to discourage sex, leading to the emergence of other acronyms,

like "American Idea for Discouraging Sex." A fairly recent PhD thesis on "Modelling HIV/AIDS Epidemic in Nigeria" that is available online thoroughly documents the antecedent views, skepticisms, and responses of the Nigerian people toward the "foreign" AIDS case and HIV/AIDS in general⁶. Despite the aforementioned misperception held by the Nigerian people, 220,000 additional cases of HIV infection have been documented since the epidemic's start in the mid-1980s⁷. Adults over the age of 15 years made up most cases⁸.

There are around 400 distinct ethnic groups in Nigeria, and these differences in sociocultural and religious customs have an impact on the risk of HIV transmission⁹. Notably, certain behaviors contributed to the risk of HIV transmission. These behaviors include having multiple sexual partners at the same time, giving birth outside of a medical facility without the assistance of a trained birth attendant, mutilating female genitalia, using unsterile traditional bloodletting, and getting traditional tattoos and markings¹⁰.

The main source of HIV infection in children under the age of 15 years has been determined to be mother-to-child transmission (MTCT), also referred to as vertical HIV transmission¹¹. During pregnancy, labor, delivery, or nursing, an HIV-positive mother might infect her child and cause MTCT¹². MTCT is thought to be the primary source of over 90% of HIV infections in children, with the largest prevalence occurring in Sub-Saharan Africa (SSA)¹³.

Equatorial Guinea and Eswatini had the highest rates of HIV/AIDS prevalence in the world, ranging from 7.3% to 26.8% in 2020¹⁴. The WHO advises lowering MTCT by preventing HIV in women of reproductive age, preventing unintended births among HIV-positive women, and giving antiretroviral medication (ARTs) to HIV-positive mothers to lower the prevalence of HIV/AIDS¹⁵. Since the commencement of mother-to-child transmission prevention programs, 1.5 million deaths and 2.9 million HIV infections among pregnant women and children have been avoided because of these initiatives¹⁶.

Studies conducted by Legesse & Reta¹⁷ on PLHIV have found numerous factors that are likely to influence adherence to ART among HIV-positive patients on this treatment. These factors include side effects of the medications, distance to the ART center stigma and discrimination, alcohol or substance use, and non-disclosure of HIV status¹⁸. However, due to differences in demographic characteristics, geographical settings, and health system dynamics, the factors influencing the prevention practice of MTCT among women of reproductive age living with HIV must be investigated in different regions to aid in improving adherence in those particular areas¹⁹.

However, knowledge on MTCT of HIV/AIDS is one of the factors influencing the prevention practice among women of reproductive age. Research indicates that women's knowledge on MTCT of HIV is limited²⁰. Women of reproductive age in Ethiopia had 34.9% knowledge on MTCT of HIV/AIDS²¹. Additionally, a study conducted by Oyefabi²² has shown that factors like maternal age, place of residence,

maternal education, occupation, wealth status, marital status, media exposure, HIV/AIDS status, and previous use of PMTCT services influence the prevention practices of MTCT of HIV/AIDS.

However, to improve the use of PMTCT services among women of reproductive age, it is important to discover the factors that influence women of reproductive age to adhere to prevention practices of mother-to-child transmission of HIV/AIDS. Using exacting scientific techniques, the goal is to offer trustworthy and accurate views about the factors influencing prevention practices of Mother-to-Child transmission of HIV/AIDS among women of reproductive age.

1.2 Statement of the Problem

Human Immunodeficiency Virus (HIV) remains a serious global public health concern. Over 40 years after the discovery of HIV, an estimated 79.3 million people got infected with HIV; 36.3 million people died; a plethora of people have been in pain, grief, and living with chronic disease worldwide²³. In 2020, an estimated 37.7 million people were living with HIV globally while a total of 1.5 million people acquired the virus. HIV can also be transmitted from the infected mother to the baby during pregnancy, childbirth, and breastfeeding with a risk of 15% to 45%²⁴. The risk of MTCT of HIV ranges from 25% to 48% in developing countries which is higher than the case in developed nations²⁵.

In 2021, 62,790 people were living with HIV in Canada, 4.5 people per 100,000 were diagnosed with HIV, and 25% of new HIV infections are black people living in

Canada. However, the black community constitutes less than 5% of Canada's total population²⁶. In the United States of America (USA) 32,100 estimated new HIV infections were discovered and the rate was 11.5 (per 100,000 people)²⁷. People aged 13 to 34 years accounted for 58% (18,700) of the estimated 32,100 new cases in 2021²⁸. Also, women living with HIV, newly infected with HIV, and dying from HIV-related causes were 19.7 million, 64,000, and 240,000, respectively, in the same year. The virus can spread from mother to child (MTCT) in the uterus during pregnancy, in the birth canal after delivery (intrapartum), and through nursing after the baby is born²⁹. According to Mirkuzie³⁰, 2% of infants are infected by HIV in Addis Ababa. A systematic review and meta-analysis studies pooled data reported from different parts of Ethiopia indicated that 11.4% and 9.9% of infants were HIV-infected through MTCT³¹. The overall pooled prevalence of MTCT of HIV infection among HIV-exposed infants in East Africa was 7.68% and this finding is high compared to WHO setting strategies of achieving zero incidences of new HIV infection among HIV-exposed infants by 2020³².

Sub-Saharan Africa (SSA) remains among the regions hit hard by the infection contributing to nearly two-thirds of the global total HIV cases³³. In 2022, the number of people living with HIV/AIDS in South Africa is 7.8 million and this makes South Africa one of the highest HIV rates in the world (14.75%)³⁴. Furthermore, among the top prevalent countries in the world, the prevalence of HIV/AIDS ranges from 7.3% to 26.8% in Equatorial Guinea and Eswatini, respectively in 2020³⁵. In Nigeria, PLHIV

is estimated to be 1.8 million in 2022 with Edo state having the highest prevalence (5.7%, 97% CI: 5.0-6.3)³⁶.

In low-income countries, breastfeeding is the major method of infant nourishment hence, prevention of mother-to-child transmission is quite challenging³⁷. In communities that do not breastfeed, the risk of woman to Child Transmission (MTCT) of HIV is 15%–30% in the absence of any intervention; if an infected woman breastfeeds, the risk rises by 5%–20%, reaching a total of 20%–45%. Research has indicated that breastfeeding for a period of 18 to 24 months can increase the chance of transmission by 30% to 45%³⁸.

Mother-to-child transmission of HIV remains a major public health problem, particularly among reproductive-aged women 19 – 49 years³⁹. Globally, an estimated 1.3 million women living with HIV become pregnant each year. In the absence of intervention, the rate of transmission of HIV from a mother living with HIV to her child during pregnancy, labor, delivery, or breastfeeding ranges from 15% to 45%⁴⁰. A review of 13 cohort studies estimated the risk of MTCT of HIV in the absence of antiretroviral treatment (ART) to be 15% to 20% in Europe, 15% to 30% in the USA, and 25% to 35% in Africa⁴¹. A study conducted by Chi⁴² shows that in South Africa there is a 2.1% MTCT rate. Also, infants born to women on antiretroviral therapy (ART) were 93% less likely to have a positive PCR test than those whose mothers were not on ART⁴³. In contrast, studies in other African countries report MTCT rates as high as 8.1% in Ethiopia. In Nigeria, the MTCT rates are estimated at 2.74%⁴⁴.

Despite high levels of HIV testing and ART uptake, MTCT has still not been eliminated. Possible factors could be late HIV diagnosis and initiation of ART and poor ART adherence⁴⁵. However, with specific interventions, the risk of MTCT in breastfeeding and non-breastfeeding populations, can be reduced to less than 2% and 5% respectively⁴⁶. Women of reproductive age account for more than half of the world's HIV cases⁴⁷. Unintended pregnancies are high among HIV-positive women⁴⁸. Added to this, over 90% of HIV infections in children are acquired through MTCT. A Study by Mpody⁴⁹ indicated that without appropriate PMTCT interventions about 50% of those infants born with HIV will die before their second birthdays. Another study on MTCT of HIV by Fassinou⁵⁰ stated that in the absence of antiretroviral therapy (ART), roughly 50% of the infected children will die before their second birthday.

While there is a place for preventive strategies, antiretroviral therapy (ART), and psychological counseling, there are also certain factors that act as barriers to the effective prevention of mother-to-child transmission of HIV. Factors such as social stigma, and cultural beliefs are the biggest issues in creating barriers to healthcare service access that hinder women from seeking preventive care. Despite advancements in antiretroviral therapy and preventive strategies, Mother-to-Child transmission continues to contribute to the burden of pediatric HIV infection⁵¹. Sociocultural factors, stigma and limited access to healthcare services further exacerbate the problem⁵².

1.3 Justification of the study

The transmission of HIV/AIDS from mother to child, also referred to as vertical transmission, remains a significant public health issue globally. Mother-to-child transmission (MTCT) can occur during pregnancy, childbirth, or breastfeeding, and without effective interventions, the transmission rate from mother to child can reach as high as 15-45%⁵³. Nigeria has one of the largest HIV epidemics in the world, with a considerable number of women of reproductive age affected by HIV⁵⁴. According to the National Agency for the Control of AIDS (NACA), in 2020, 1.7 million people in Nigeria were living with HIV, the prevalence rate of HIV was 1.3% and it was the highest among the female adult population, at 1.6% and the transmission of HIV from mother to child remains a persistent challenge. Addressing factors that influence the success of PMTCT programs is crucial to achieving the global goal of eliminating pediatric HIV and reducing maternal mortality.

However, with adequate prevention practices, including antiretroviral therapy (ART) and other medical interventions, this risk can be reduced to less than 5%. Given these statistics, there is a clear need to explore the factors influencing prevention practices for MTCT among women of reproductive age, as this knowledge can support the development of targeted interventions aimed at reducing HIV transmission rates and improving health outcomes for both mothers and children.

This study is justified by the alignment of MTCT prevention with global health initiatives, particularly those focused on ending the HIV/AIDS epidemic. The World

Health Organization (WHO) and the United Nations have established targets to eliminate MTCT of HIV as part of the Sustainable Development Goals (SDGs), which call for an end to AIDS as a public health threat by 2030. Achieving this goal requires a comprehensive understanding of the factors influencing prevention practices at the individual, community, and health system levels. By examining these factors, this study aims to contribute valuable insights toward meeting global targets and reducing the burden of HIV/AIDS.

Women of reproductive age are particularly vulnerable to HIV/AIDS due to biological, social, and economic factors. In sub-Saharan Africa, where the majority of HIV-positive individuals reside, women account for nearly 60% of people living with HIV, and a large proportion are within their reproductive years⁵⁵. This prevalence highlights the necessity of implementing effective MTCT prevention strategies in this demographic. Understanding the unique challenges and facilitators for women in adopting MTCT prevention practices will allow for more personalized and effective interventions.

A study by Sari indicate that women's behaviors, beliefs, and socioeconomic status significantly influence MTCT prevention practices⁵⁶. Cultural norms, educational background, access to accurate health information, and family and community support can all impact a woman's ability and willingness to adhere to prevention measures such as ART. Examining these socioeconomic and behavioral factors is necessary to inform policies and practices that foster supportive environments for

women. Interventions that take into account these influences can be more effective than those that focus solely on clinical aspects of MTCT prevention, as they are likely to be more acceptable and sustainable for women and their communities.

In addition, there is a pressing need for data-driven policy decisions and programmatic support that reflect the realities faced by women of reproductive age in both high- and low-income settings. This study aims to provide evidence that can support policymakers in designing MTCT prevention programs that consider not only medical needs but also cultural, economic, and psychosocial challenges. Programs that address these factors holistically are more likely to succeed in increasing the rate of prevention practice uptake, thereby reducing MTCT rates. This study will also contribute to the literature on MTCT prevention, helping to fill existing gaps and guiding future research in similar contexts.

1.4 Aim and Objectives of the Study

This study aimed to assess the factors preventing practices of mother-to-child transmission of HIV/AIDS among women of reproductive age in Ilorin, Kwara State, Nigeria.

Objectives of the Study are to:

- i. identify the level of knowledge on prevention practices of mother-to-child transmission of HIV/AIDS among women of reproductive age Ilorin, Kwara State, Nigeria.

- ii. examine the attitude towards prevention practices of mother-to-child transmission of HIV/AIDS among women of reproductive age in Ilorin, Kwara State, Nigeria.
- iii. investigate the perception on prevention practices of mother-to-child transmission of HIV/AIDS among women of reproductive age in Ilorin, Kwara State, Nigeria.
- iv. determine the preventive practices of mother-to-child transmission of HIV/AIDS among women of reproductive age in Ilorin, Kwara State, Nigeria.
- v. identify factors affecting prevention practices of mother-to-child transmission of HIV/AIDS among women of reproductive age in Ilorin, Kwara State, Nigeria.

1.5 Research Questions

1. What is the level of knowledge on prevention practices of mother-to-child transmission of HIV/AIDS among women of reproductive age in Ilorin, Kwara State, Nigeria?
2. What is the attitude towards prevention practices of mother-to-child transmission of HIV/AIDS among women of reproductive age in Ilorin, Kwara State, Nigeria?
3. What is the perception on prevention practices of mother-to-child transmission of HIV/AIDS among women of reproductive age in Ilorin, Kwara State, Nigeria?

4. What is the level of preventive practices of mother-to-child transmission of HIV/AIDS among women of reproductive age in Ilorin, Kwara State, Nigeria?
5. What are the factors affecting prevention practices of mother-to-child transmission of HIV/AIDS among women of reproductive age in Ilorin, Kwara State, Nigeria?

1.6 Hypotheses

- H₀1:** There is no significant association between educational status and level of knowledge on prevention practices of mother-to-child transmission of HIV/AIDS among women of reproductive age in Ilorin, Kwara State, Nigeria.
- H₀2:** There is no significant association between religious affiliation and attitude towards preventive practices of mother-to-child transmission of HIV/AIDS among women of reproductive in Ilorin, Kwara State, Nigeria.
- H₀3:** There is no significant association between marital status and preventive practices of mother-to-child transmission of HIV/AIDS among women of reproductive in Ilorin, Kwara State, Nigeria.
- H₀4:** There is no significant association between religious affiliation and factors affecting prevention practices of mother-to-child transmission of HIV/AIDS among women of reproductive in Ilorin, Kwara State, Nigeria.

1.7 Significance of the Study

The study of factors affecting mother-to-child transmission (MTCT) of HIV/AIDS among women of reproductive age is crucial for improving public health, maternal care, and child welfare. One of the primary reasons for its significance is the potential to reduce transmission rates during pregnancy, childbirth, and breastfeeding. By identifying the specific factors that contribute to transmission, healthcare providers can implement targeted interventions that protect infants from acquiring HIV. This research is also vital for enhancing maternal and child health outcomes, as it supports the development of comprehensive care strategies that improve pregnancy management and postnatal care, ultimately leading to healthier lives for both mothers and their children.

Understanding the dynamics of MTCT informs public health policies that aim to reduce the burden of HIV/AIDS on a broader scale. Governments and health organizations can use the data from these studies to allocate resources more effectively, ensuring that women have access to essential healthcare services such as antiretroviral therapies (ART) and proper prenatal care. Research into MTCT factors also plays a critical role in designing prevention programs, particularly in areas with limited healthcare infrastructure. These programs can be tailored to address key risk factors such as maternal viral load, breastfeeding practices, and healthcare accessibility, which are essential to lowering transmission rates.

Moreover, studying MTCT helps create targeted education and awareness campaigns among women of reproductive age (19-45 years). Women of reproductive age are often central to family and community health, and empowering them with knowledge about HIV transmission and prevention can reduce stigma and promote safe health practices. Finally, research into the factors influencing MTCT helps identify and support vulnerable populations, such as women with limited access to healthcare or those in low socio-economic settings. This ensures that interventions are equitable and reach those most in need, contributing to the global goal of eliminating pediatric HIV and supporting the fight against HIV/AIDS worldwide.

1.8 Scope of the Study

The study was conducted among women of reproductive age (19 – 45 years) in Ilorin, Kwara State, Nigeria.

1.9 Operational Definitions of Terms

1. **Mother-To-Child Transmission:** refers to the transmission of the virus from an infected mother to her baby through breast milk and during pregnancy.
2. **Health Service Utilization:** This denotes the availability, affordability, and acceptability of health resources that women of childbearing age would be able to access and use in the prevention of HIV infection.

3. **Knowledge about Strategies to Prevent HIV/AIDS:** This involves the awareness and understanding of women regarding the mode of transmission of HIV and the means through which MTCT can be prevented.
4. **Quality of Health Care Services:** This is the level of health care that is delivered at the health facilities and may involve provider competency, person-centered care, and availability of commodities that may generally be required in the course of the provision of the services, like medicines and testing kits
5. **Male Partner Involvement:** This category means male participation in and support of the MTCT prevention of HIV. It covers his taking part in health decision-making, attending antenatal visits, and supporting adherence to preventives.
6. **Stigma:** This may encompass ill perception, beliefs, and discrimination toward people living with HIV/AIDS. This may emanate from both perceived, enacted, and internalized stigma that can make a woman avoidant to health services

Endnotes

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Chapter Two

Literature Review

2.1 Conceptual Review

2.1.1 Human Immunodeficiency Virus/Acquired Immunodeficiency Syndrome

HIV is a global epidemic characterized by stark disparities. In 2015, approximately 25.5 million people were living with HIV infection in sub-Saharan Africa, 5.1 million in Asia and the Pacific, and 1.1 million in the United States¹. Although the number of new HIV infections has declined in most regions of the world since 1998 because of the increasing dissemination of antiretroviral therapy, it was estimated that by June 2019, only 24.5 million of the 37.9 million (65%) people living with HIV (PLWH) worldwide were receiving antiretroviral therapy². HIV is a virus that weakens the body's immune system, particularly targeting CD4+ T cells, which are key drivers of the body's immune response. Heterosexual transmission remains the dominant mode of transmission and accounts for about 85% of all HIV-1 infections. Southern Africa remains the epicenter of the pandemic and continues to have high rates of new HIV-1 infections³. Although overall HIV-1 prevalence remains low in the emerging epidemics in China and India, the absolute numbers, which are fast approaching those seen in southern Africa, are of concern. Outside of sub-Saharan Africa, a third of all HIV-1 infections are acquired through injecting drug use, most (an estimated 8.8 million) of which are in Eastern Europe and Central and Southeast Asia. The rapid

spread of HIV-1 in these regions through injecting drug use is of importance since it is a bridge for the rapid establishment of more generalized epidemics⁴.

According to a report issued by the World Health Organization (WHO) in 2019, approximately 38 million people were living with HIV globally⁵. In 2019, the total number of cases of HIV/AIDS registered with the Ministry of Health (MOH) was 3232. Of those, 884 (27.4%) were female, the majority of which were of childbearing age; 63.1% were between the ages of 25–49 years, and 17.6% aged 15–24 years⁶. There has been an exponential increase in the number of documented HIV cases in recent years, and this has been attributed to the decrease in stigmatization, applying protocols of detection such as antenatal screening (ANS) of pregnant women and their contacts as well as the availability of treatment in health institutions. The most common mode of transmission to children is MTCT from HIV-infected woman.

Worldwide, studies have been done to look into the effects on pregnancy and outcomes⁷. For example, a retrospective study published in 2015 by Kullima, looked into the maternal and perinatal outcomes of HIV-infected women in a tertiary care hospital in Nigeria. They concluded that HIV-positive status increased adverse birth outcomes of pregnancy such as anemia, puerperal sepsis, low birth weight, preterm births, and higher cesarean section rate amongst women who tested positive for HIV. It also showed that ART appeared to reduce the risk of preterm births in HIV-positive cohorts⁸.

Similarly, it is equally important in cases where one or both partners are HIV positive and wish to conceive. In recent years, universal HIV prenatal testing, antiretroviral therapy (ART), scheduled cesarean delivery for HIV-positive women with elevated viral loads, appropriate ART for infants, and avoidance of breastfeeding have shown encouraging results, and the Centers for Disease Control and Prevention now aims to eliminate HIV transmission from mother to child by reducing its incidence to <1 infection per 100,000 live births⁹. According to one estimate, around 5,000 HIV-positive women give birth in the United States every year¹⁰. Following current recommendations regarding HIV and pregnancy, both the United States and Europe have witnessed a steep decline in perinatal HIV transmission to 1% or less. In the United States, black infants have 5 times increased incidence of perinatal HIV compared to white infants¹¹. According to a report by the Centers for Disease Control and Prevention, only 44 HIV-positive infants were born in the United States in the year 2016, with the incidence of perinatal HIV transmission being as low as 1.1 out of 100,000 live births¹². Globally, with the increasing availability of ART to pregnant women, the number of new HIV cases among children has decreased by 47% since 2010 according to the Joint United Nations Programme on HIV/AIDS¹³.

2.1.2 Knowledge of Human Immunodeficiency Virus/Acquired Immunodeficiency Syndrome.

The 2014 Nigeria Demographic and Health Survey (NDHS) reported that 89.3% of boys and 89.5% of girls aged 15–19 had heard of AIDS. On HIV prevention methods,

63% of boys compared to 51.6% of girls knew that consistency in condom use could reduce the risk of HIV infection. A survey conducted by Badru¹⁴ highlighted significantly low levels of comprehensive HIV knowledge (9.4%) among young adolescents in Nigeria. According to Khamisa¹⁵ in South Africa, an estimated overall HIV/AIDS prevalence rate of 13.5%, and there were no significant differences between male and female adolescents in terms of HIV and AIDS knowledge. A systematic review and meta-analysis study conducted by Kassie¹⁶ reveals that the estimated pooled level of knowledge on PMTCT among reproductive-age groups in Ethiopia was 62.15%. In a study conducted by Doda¹⁷ in India, most participants had incomplete knowledge regarding the various aspects of HIV/AIDS. Also, Teshale¹⁸ reveals in his study that comprehensive knowledge of HIV/AIDS among women of reproductive age in sub-Saharan Africa is low (38.56%).

HIV/AIDS survival has increased markedly in the region as a direct result of highly active antiretroviral therapy. In the United States of America, an estimated 40,000 people have been infected with HIV each year during the past decade¹⁹. As in Western Europe, men who have sex with men, injection drug users, and high-risk heterosexuals all have experienced high rates of HIV infection. However, unlike in Europe, there has been significant transmission of HIV from injection drug users to non-user heterosexuals. This has been especially pronounced among persons of African descent in the United States who comprise about 12.5% of the country's population. Currently about half of newly reported HIV infections in recent years have been among African Americans, and African-American women are almost three times as

likely to be infected as women of European descent²⁰. Sex between men is the most common route of HIV infection in both the United States and Canada, accounting for 63% of newly diagnosed HIV infections in the United States²¹.

Sub-Saharan Africa has just over 10 percent of the world's population but is home to 60% of all people living with HIV. An estimated 24.5 million people were living with HIV in the region at the end of 2005, and approximately 2.7 million new infections, or 66% of all new infections worldwide, occurred there during that year²². Overall UNAIDS estimates that 6.1% of the adult population is infected. Moreover, 50 million Africans have been infected with HIV since the beginning of the epidemic, and more than 22 million have died. Eight African countries have more than 1 million people living with HIV, and estimates are that among 15- to 24-year-old Africans, 1.9% of men and 4.6% of women are already infected²³. The epidemic in sub-Saharan Africa is not homogeneous; some countries are much more severely affected than others. In Somalia and Gambia, the prevalence is around 2% of the adult population, whereas in South Africa and Zambia, around 20% of the adult population is infected²⁴. In four southern African countries, the national adult HIV prevalence rate has risen higher than was thought possible and now exceeds 20%. These countries are Botswana (24.1%), Lesotho (23.2%), Swaziland (33.4%) and Zimbabwe (20.1%)²⁵. West Africa is relatively less affected by HIV infection, but the prevalence rates in some countries are creeping up. In West Africa and Central Africa HIV prevalence is estimated to exceed 5% in several countries including Cameroon (5.4%), Central African Republic (10.7%), Côte d'Ivoire (7.1%), and Nigeria (3.9%)²⁶. HIV infection in Eastern Africa varies between adult prevalence

rates of 2.4% in Eritrea to 6.5% in Tanzania. In Uganda, a country severely affected by the HIV epidemic in the 1980s and early 1990s, the countrywide prevalence among the adult population is now 6.7%²⁷.

Nigeria has the largest HIV burden in Sub-Saharan Africa, with over 1.9 million people currently living with HIV. AIDS-related deaths in Nigeria have been estimated to be around 49,000 across all age groups in the year 2020 alone²⁸. The country has adopted the Sentinel Surveillance System but has launched the Nigeria National Response Information Management System (NNRIMS) which serves as the disease monitoring and evaluation framework for the national HIV/AIDS response.

The first two AIDS cases in Nigeria were diagnosed in 1985 and reported in 1986 in Lagos one of which was a young female sex worker aged 13 years from one of the West African countries²⁹. The news of this first AIDS case sent panic, doubt, and disbelief to the whole nation as AIDS was perceived as the disease of American homosexuals. Some people saw the story about AIDS as a ploy by the Americans to discourage sex and many acronyms, one of which was 'American Idea for Discouraging Sex' emerged at the time. These earlier perceptions, skepticisms, and reactions of the Nigerian public towards the 'foreign' AIDS case and HIV/AIDS in general have been well documented in the introductory part of a fairly recent doctoral thesis on 'Modelling HIV/AIDS Epidemic in Nigeria' that can be found online³⁰.

HIV/AIDS tends to be generally low in most parts of the country, the highest numbers of HIV prevalence were found mostly in Benue, FCT, Anambra, Bayelsa and Akwa

Ibom States of the federation³¹. These marked differences in the prevalence rates among these states could be due to a number of factors including but not limited to cultural differences, varying levels of education, religion and differing socio-economic structures. Indeed, there must be interplay of these factors on HIV/AIDS outcomes in these states. The variations in socio-cultural and religious practices among about 400 different ethnic groups in Nigeria have implications on the risk of HIV transmission. Notably, some practices that include multiple and concurrent sex partners, delivery outside the health facility without a skilled birth attendant, female genital mutilation, unsterile traditional bloodletting and traditional marking and tattooing will lead to an increase in the risk of HIV transmission.

The estimated overall number of People Living with HIV (PLWHIV) by the end of 2017 was approximately 36.9 (34.3–41.4) million and Sub-Saharan Africa was the most affected region, having 25.8 (24.0–28.7) million PLWHIV and 66% of all people with HIV infection living in the region³². Also, among all people living with HIV globally, 9% of them live in Nigeria³³. The country already burdened by political instability and endemic political corruption as a result of almost 33 years of military rule now seems prepared to ‘wipe out’ the virus within a few decades³⁴. Notwithstanding the progress in institutional reforms and political commitment to tackle the disease, the country has seen more citizens placed on life-saving medication of active antiretroviral therapy (AART) to increase the survival of such HIV seropositive individuals.

The relative contribution of cell-free virus compared with cell-associated virus in HIV-1 transmission remains unclear, there is growing evidence that viral load is predictive of transmission risk³⁵. The highest levels of viremia are seen during acute infection and advanced HIV-1 disease. Further, co-infections with other sexually transmitted diseases in asymptomatic HIV-1 infected people can increase viral shedding to levels similar to those seen during acute infection. Thus, sexually transmitted diseases could enhance HIV-1 transmission to rates similar to those seen during primary infection. This observation could help to explain why the efficiency of HIV-1 transmission exceeds, in some settings, the earlier mathematical projections. Thus, identification and treatment of recently infected people is an important means to reduce transmission. However, most people are unaware of their HIV-1 status during these crucial first months of infection. Several screening strategies based on laboratory testing and clinical algorithms are being developed and tested for efficient identification of early infection before antibody development. Additionally, more aggressive management of sexually transmitted infections in settings with generalized epidemics has the potential to affect current epidemic trajectories.

2.1.3 Knowledge of Prevention of Mother-to-Child Transmission of Human Immunodeficiency Virus/Acquired Immunodeficiency Syndrome.

In 2020, globally approximately 37.6 million people living with HIV and 700,000 children are born infected from their parents. Every day there are nearly 1800 new

Human Immune Virus (HIV) infections in children, more than 90% occurring in the developing world. Approximately 90% of these infections are associated with mother-to-child transmission (MTCT). In 2019, Ethiopia had over 100,000 pregnancies in HIV-positive women and over 12,000 HIV-positive. Research on awareness and knowledge on timing of mother-to-child transmission of HIV among women in Southern Ethiopia found that only 60.7% were aware of the risk of MTCT. The possibility of MTCT during pregnancy, delivery, and breastfeeding was known by 48.4%, 58.6%, and 40.7% of the respondents, respectively³⁶. The proportion of women who were fully knowledgeable on timing of MTCT was 11.5%. Women's full knowledge on timing of MTCT was associated with maternal education and being government employee³⁷.

Worldwide, 1.3 million pregnant women and 2.8 million children and adolescents are living with HIV³⁸. Despite significant efforts and achievements in PMTCT over the past decade, approximately 1.7 million children were living with HIV and 150,000 children were newly infected with HIV in 2019, mainly through the transmission of the virus from their mothers during pregnancy, delivery, or breastfeeding³⁹. During this year, an estimated 95,000 children under the age of 15 died of AIDS-related causes globally and mainly in sub-Saharan countries⁴⁰. In Ethiopia, the precise prevalence of HIV infection in children is unknown. However, 19,000 children ages 0–14 years are supposed to live with HIV/AIDS in urban areas⁴¹.

Since 2011, the global community has committed itself to accelerating progress for the PMTCT initiative to eliminate new pediatric HIV infections and improve maternal, newborn, and child survival within the context of HIV⁴². Adherence to these practices is variable with better results obtained in developed countries than in developing countries. The continuum of care, the magnitude of PMTCT, and associated services including HIV testing and counseling and ARV prophylaxis are still very low in developing countries⁴³. PMTCT of HIV has been considered one of the essential prevention interventions to control HIV/AIDS epidemics. Since the beginning of PMTCT programs, 1 million deaths and 2.2 million HIV infections have been averted among children⁴⁴. One of the pillars of PMTCT and the most cost-effective way is to increase the knowledge, attitude, and practice of pregnant mothers toward this intervention strategy⁴⁵.

Studies conducted in African countries showed that there was a low level of knowledge, attitude, and practice of mothers regarding MTCT and PMTCT services. However, proper implementation of PMTCT services requires adequate knowledge and appropriate attitudes and practices of pregnant women toward PMTCT⁴⁶. In the study area, data on knowledge, attitude, and practice toward PMTCT for HIV among pregnant mothers are not completely understood, and little is known about the benefits of PMTCT for HIV. Therefore, this study aimed to assess the knowledge, attitude, and practice toward PMTCT for HIV among pregnant mothers in the study area. On the other side, this finding related to the practice of ANC clients towards PMTCT of HIV is less than a study done in Nigeria and Hosanna Ethiopia. The reason

might be explained by intervention given for maternal and child care practices including the provision of PMTCT of HIV in maternal and child health service clinics by the concerned bodies could be attributed to this difference. In the same way, this discrepancy might also be related to variation in women's educational status and sample size variation, the background of the study participants and method used and study settings, and the availability and accessibility of the infrastructures. However, this finding implies that there is a lack of balance that the zone health office regional health bureau, and other organization that works on HIV/PMTCT could work in collaboration with the local health care provider to enhance the good practice of women towards PMTCT of HIV in ANC clinics. Overall, the factors, knowledge, attitude, perception, and practice toward PMTCT of HIV were lower as compared to the majority of previous studies⁴⁷. This might be due to the primary educational level (>50%), housewife in occupation (76.9%), low income (49.1%), and knowledge gap on HIV counseling, testing, and treatment of STI to reduce the risk MTCT of HIV, prevention of unintended pregnancy by improving FP service to reduce the risk MTCT of HIV and not encouraging condom use with spouse due to culture in this study were high as compared to other previous findings⁴⁸.

2.1.4 Prevention practices on of Mother-to-Child Transmission of Human Immunodeficiency Virus/Acquired Immunodeficiency Syndrome.

Prevention of mother-to-child transmission has seen advances in both industrialized and resource-constrained settings. Intrapartum transmission has been reduced by

increasing access to interventions such as one dose of nevirapine to the mother and newborn baby. Concerns about drug-resistant viral strains have led to several trials with combination treatments to reduce transmission during the intrapartum period. In some settings, elective delivery by caesarean section can further reduce HIV-1 transmission during the intrapartum period. Still, the benefits of the intervention could be countered by post-partum sepsis and increasing maternal mortality⁴⁹. The Prevention-of-Mother-to-Child Transmission (PMTCT) program aims to address the high prevalence of HIV among pregnant women and eliminate mother-to-child transmission (MTCT)⁵⁰. In order to eliminate MTCT there needs to be less than 50 new child HIV infections per 100 000 live births, or less than 0.05% MTCT rate)⁵¹.

A study conducted by Naidoo⁵² reveal that more than 95% of HIV-positive women-initiated ART in 2019 and 2020 in South Africa and this led to reduction in MTCT of HIV/AIDS accounting for only 2.1% MTCT rate. Infants born to women on antiretroviral therapy (ART) were 93% less likely to have a positive PCR test than those whose mothers who were not on ART⁵³. This study indicates that the prevention practice of MTCT of HIV/AIDS in South Africa is well practiced. More than 90 percent of new paediatric HIV infections are in sub-Saharan Africa⁵⁴. Mother-to-child transmission (MTCT) is the most common means of acquiring paediatric HIV infection since more than 90% of new HIV infection among children is through mother-to-child transmission. Without any intervention measures to prevent the transmission, the risk of MTCT ranges from 20% to 40%. However, mother-to-child transmission can be reduced to less than 2% in non-breastfeeding

populations. In breast feeding populations, the transmission can be reduced less than 5% with effective interventions during the periods of pregnancy, labour, delivery and breastfeeding⁵⁵.

Prevention of mother-to-child transmission (PMTCT) is one of the fundamental approaches to control HIV epidemic⁵⁶. In early 2013, Ethiopia launched option B+ implementation; i.e. all HIV infected pregnant women receive triple ARV (anti-retroviral) drugs without an initial CD4 testing⁵⁷. To control the risk of MTCT of HIV, World Health Organization has launched a program as virtual elimination of pediatric HIV. Four-pronged approaches are incorporated as components of virtual elimination of pediatrics' HIV. The approaches include primary prevention of HIV infection among women of childbearing age; preventing unintended pregnancies among women living with HIV; preventing HIV transmission from a woman living with HIV to her infant and providing appropriate treatment, care and support to mothers living with HIV, their children and families. However, for implementing prevention of mother-to-child transmission of HIV, one of the major problems is poor awareness and knowledge of the people about MTCT and PMTCT. Particularly, mother's knowledge on PMTCT plays significant roles to realize preventive measures and to utilize the service.

Mother's knowledge on prevention of mother-to-child transmission of HIV is essential in order to use available prevention options. Women, who have adequate knowledge on HIV prevention, protect themselves, their husband and their children

from HIV infection and are more likely to undergo HIV testing than women who do not have adequate knowledge on HIV. On the other hand, women, who do not realize mother-to-child transmission of HIV and its prevention, have limited uptake of PMTCT services. Regardless of widespread extension of PMTCT services, women's knowledge on PMTCT is not satisfactory⁵⁸. Investigating the proportion and predictors for mother's knowledge on prevention of mother-to-child transmission of HIV in resource limited settings have many benefits. It is a critical requirement to enhance mother's knowledge on PMTCT. The investigation will also help to escalate utilizations of PMTCT services and it will ultimately be used to prevent and control transmission of HIV.

However, since HIV-1 can be transmitted by breastfeeding, replacement feeding is recommended in many settings. Poor access to clean running water precludes, however, the use of formula feeding under these circumstances, and exclusive breastfeeding with abrupt weaning is one option for reducing transmission. A potential novel intervention still being tested is the daily use of antiretroviral during breastfeeding. More attention is starting to focus on the pregnant mother, especially initiation of antiretroviral therapy in mothers with low CD4+ counts during pregnancy and thereafter. Only limited data are available regarding the health of uninfected children born to HIV-1-positive mothers. In a European cohort of exposed-uninfected children, no serious clinical manifestations were apparent, at least in the short-term to medium-term⁵⁹. Previous studies have identified factors for mother's knowledge on prevention of mother-to-child transmission of HIV. However,

different levels of mother's knowledge on PMTCT were observed. Contributions of factors for mother's knowledge on PMTCT vary in settings of different populations⁶⁰.

Reported rates of transmission of HIV from mother to child range from around 15%-25% in Europe and the USA to 25% to 40% in some African and Asian studies⁶¹.

Transmission of HIV-1 can occur in-utero, at the time of labor and delivery, or postnatal through breastfeeding. Knowledge about the likely timing of transmission is important for the design of possible interventions⁶². Evidence for in-utero transmission (as early as 8 weeks' gestation) comes from: the detection of HIV-1 in fetal specimens and placental tissue, viral isolation from 20%-60% of infected infants at the time of birth, the presence of p24 antigen in fetal serum; and an observed bimodal distribution of symptoms in children⁶³. The evidence for intrapartum transmission came first from observations from a register of twins, which found that the first-born twin had a two-fold higher risk of contracting HIV-1 than the second-born twin. Exposure of the fetus to the virus in cervicovaginal secretions is thought to play a role, although the same phenomenon is observed for twins delivered by cesarean section⁶⁴. In addition, recent reports have indicated that mode of delivery may affect the transmission rate. Cesarean section whether elective or emergency has been shown to decrease transmission in some studies and prolonged rupture of membranes [more than four hours] to increase the risk of transmission⁶⁵. HIV has been shown in both the cell-free and cellular portions of breast milk. Postnatal transmission through breastfeeding may explain the higher transmission rate seen in Africa. The contribution of each of these routes to overall transmission has not been

quantified exactly but it appears that in-utero transmission is less frequent and that a substantial proportion of infection occurs at the time of delivery or late in pregnancy⁶⁶.

The placenta provides a barrier that effectively reduces, but does not completely prevent, HIV transmission and the most frequent window for *in-utero* transmission is the last 14 days before delivery⁶⁷. Mechanisms of HIV passage across the placenta are not well known⁶⁸. The virus infects syncytiotrophoblast, cytotrophoblast, and villous endothelial cells, but placental cells produce various soluble factors and receptors including cytokines and chemokines that may reduce HIV replication in trophoblasts⁶⁹. *In utero*, single or multiple major maternal HIV variants are transmitted⁷⁰. HIV MTCT occurs mainly *via* transcytosis of HIV-infected cells while free virus can pass through the placenta *via* an injured villous surface.

Feto-placental macrophages, called Hofbauer cells, may putatively facilitate placental HIV transmission and contribute to the selection of HIV variants infecting the developing fetus. HIV-1 enters cells of the immune system, including Hofbauer cells, *via* interaction of the surface envelope glycoprotein gp120 with CD4 and chemokine co-receptors CCR5 or CXCR4, and the transmembrane envelope protein gp41 promotes fusion of the virus with the host cell's plasma membrane. Transmission through breastfeeding can occur at any point during lactation⁷¹. Cell-free and infected CD4+ cells can transmigrate across fetal oral and intestinal epithelia, probably because their mucosal layers are relatively narrow, have comparatively low stratification, and lack expression of anti-HIV innate proteins. The risk factors related

to HIV transmission through breastfeeding have been less studied but are associated with maternal viral load and subclinical mastitis. The risk is cumulative; the longer the HIV-infected mother breastfeeds, the greater the additional risk of viral transmission to the newborn. Where breastfeeding is common and prolonged this route of transmission may account for up to half of HIV infections in infants and young children.

2.1.5 Prevention practices on HIV/AIDS

Reduction of heterosexual transmission is crucial for control of the epidemic in many parts of the world. Prevention is achieved through reduction in the number of discordant sexual acts or reduction of the probability of HIV-1 transmission in discordant sexual acts⁷². Shamu stated in his study among young adults that less than half (44.7%) had correct knowledge of HIV prevention and 73% used a condom at last sex. HIV prevention knowledge levels were much lower among women, coupled with inadequate but relatively high levels of condom use at last sex. This implies that the prevention practice of HIV/AIDS is common among male adults⁷³.

The first can be achieved through abstinence and sex between concordantly seronegative individuals. Abstinence and lifelong monogamous relationships might not be adequate solutions for many people and therefore several interventions aimed at lowering the risk of transmission per discordant sexual act are in the process of clinical testing⁷⁴. Male and female condoms provide a proven and affordable

prevention option. In combination, these options are also more commonly referred to as the ABC (abstinence, be faithful, condom use) approach.

In addition, other biomedical prevention interventions include male circumcision, antiretrovirals for prevention (e.g. pre-exposure or post-exposure), chemoprophylactic treatment of herpes simplex virus-2 (HSV-2), microbicides, and vaccines. Results from one of three independent phase III male circumcision trials underway in South Africa, Kenya, and Uganda has helped to allay some of the ambivalence around the protective effect of male circumcision. The findings from the South African trial show a 60% protective effect of male circumcision. The possible mechanism relates to the fact that the foreskin has apocrine glands that secrete lysozymes but also Langerhans cells expressing CD4 and other receptors. These skin-specific dendritic cells can uptake virus and are believed to play a part in transport of the virus to susceptible T cells. Immunofluorescence studies of foreskin mucosa suggest that these tissues might be more susceptible to HIV-1 infection than cervical mucosa. Findings from this proof-of-concept trial need to be compared with evidence from the two trials still underway in Kenya and Uganda, and to acceptability data, behavior change after circumcision, surgical complication rates, and logistics of undertaking the procedures before policy formulation and wide-scale access as a prevention strategy.

A defining feature of the pandemic in the current decade is the increasing burden of HIV-1 infections in women, which has additional implications for mother-to-child transmission. Women now make up about 42% of those infected worldwide; over

70% of whom live in sub-Saharan Africa⁷⁵. Overall, a quarter of all new HIV-1 infections are in adults aged younger than 25 years. HIV-1 infection rates are three to six times higher in female adolescents than in their male counterparts, and this difference is attributed to sexual coupling patterns of young women with older men. Population prevalence of HIV-1 infection, concurrent sexual relationships, partner change, sexual practices, the presence of other sexually transmitted diseases, and population mobility patterns for economic and other reasons (eg, natural disasters and wars) further increase the probability of HIV-1 acquisition. Emerging data accord with strong links between the risk of sexual HIV-1 acquisition and episodic recreational drug or alcohol use⁷⁶.

In northeastern India along the Myanmar border and major cities such as Delhi, Chennai, and Mumbai drug injecting is also a major source of new infections, and prevalence has risen rapidly in injection drug users⁷⁷.

In Eastern Europe – notably Estonia, Latvia, Lithuania, Moldova, Russia, and Ukraine – the HIV incidence rate is among the highest in the world. Today, Russia has the largest HIV epidemic in Europe and accounts for 70% of the cases in the Eastern Europe and Central Asia region⁷⁸. By the end of 2004, almost 300,000 cases of HIV have been officially registered in the Russian Federation since the beginning of the epidemic, and this number continues to grow⁷⁹.

Central Europe in contrast to Eastern Europe has a much smaller and more stable HIV epidemic. HIV in the region is largely concentrated in drug injectors, as in Russia and

the former Soviet republics, and three-quarters of all cases are in Poland and Romania. Southeastern Europe has a more mixed picture. While the prevalence has in general been low, political instability, the wars following the disintegration of Yugoslavia, and the economic depression following the end of the Warsaw Pact created an environment in which behavioral and cultural shifts, such as injection drug use, commercial sex work, and migration, created a situation in which HIV could be rapidly transmitted⁸⁰. In addition, conditions such as high rates of sexually transmitted diseases, in other countries in southeastern Europe, such as Romania, have the potential to facilitate explosive heterosexual transmission.

2.1.6 Attitude toward prevention practice of MTCT of HIV/AIDS.

An institutional-based cross-sectional study conducted among 216 antenatal care (ANC) attendees in Gurage zone hospitals from June to July 2020 in Ethiopia by Yeshaneh reveal that the attitude, and practice towards Prevention of mother-to-child transmission (PMTCT) of HIV among antenatal care attendees were found to be 79%, and 62% respectively⁸¹.

A study conducted by Mukhtar⁸² in north India, in the district Srinagar, showed that the majority of the study subjects (91.5%) and their spouses (74.9%) were tested for HIV infection. Among the study participants, a majority (98.4%) had shared the result of HIV test with their spouse. Pertaining to HIV testing 96.4% and 77.3% had favorable attitudes towards HIV testing among pregnant women and their spouses respectively. Regarding delivery attendants, 94.3% of study participants had a

favorable attitude toward the delivery of HIV positive women by a skilled person. Whereas; Only 38.5% of the study subjects agreed that HIV-positive mothers should get ARV therapy during pregnancy and very few subjects (12.3%) agreed to avoid breastfeeding the child to reduce the risk of transmission of HIV infection to the child⁸³.

2.1.7 Factors influencing prevention practices of mother to child transmission of HIV/AIDS

Several variables are causally associated with PMTCT adherence performances. The most common related independent variables and factors include biological, behavioral, social, demographic, psychological, and cultural norms⁸⁴. Other causes include disease variables such as chronic disease conditions, stigma, health care provider attitudes, and national variables such as shortage of ARVs in clinics and shortage of healthcare providers responsible for PMTCT programs⁸⁵.

A study conducted by Ochigbo⁸⁶ in Francistown in Botswana found that pregnant women defaulting PMTCT programs are related to pregnancy-related illnesses and ARV side effects. Other factors include educational factors which determine the knowledge and attitudes towards PMTCT. Environmental factors include stigma and discrimination in health settings, weak health infrastructure and long distances to access medication, malfunctioning and improper working phones to remind mothers on medication time, misunderstandings and misconceptions of treatment, misunderstanding of drug instructions and change of location during holidays⁸⁷.

Studies by Mariwah show that PMTCT programs focus mostly on facility-based interventions, neglecting the significant role of community-driven processes in scaling up PMTCT programs and coverage⁸⁸. The empowerment of community leaders and social groups in participating in PMTCT programs and partnering with other national governance bodies can ensure a more appropriate design, reach, and quality of PMTCT health services which can also influence the adherence to the prevention practice of MTCT. This can create safe environments that advocate proper PMTCT measures in communities⁸⁹. The empowerment of community leaders and social groups in participating in PMTCT programs and partnering with other national governance bodies can ensure a more appropriate design, reach, and quality of PMTCT health services. This can create safe environments that advocate proper PMTCT measures in communities.

Enabling factors influencing PMTCT in Nigeria

The availability, acceptability, cost, and accessibility of resources that either help or impede decisions and behaviors related to PMTCT are referred to as enablers in the reviewed literature. Positive facilitators noted in the literature include but are not limited to, the secrecy of HIV test results, the availability of health education programs surrounding PMTCT, and access to family planning services, HAART, support groups, and counseling services for women living with HIV⁹⁰. Pregnant women's attitudes toward VCT in Awka, Nigeria, were assessed, and the authors discovered that willingness to test for HIV was impacted by assurances of anonymity

of results⁹¹. According to Onalu's study, creating a peer support group for nursing mothers in the community could help change stigmatization and support HIV-positive mothers, particularly young mothers who choose to breastfeed their children exclusively, while also helping to change societal norms and beliefs⁹². Early implementation of PMTCT interventions, such as having access to more counseling sessions at the start of pregnancy, created circumstances that enabled women to carry out their goals toward breastfeeding their infants.

However, decisions and actions about PMTCT are adversely affected by a lack of readily available, inexpensive, acceptable, and accessible resources. For instance, poor and unreachable volunteer and counseling centers, together with travel distance and lengthy wait times, were found to be barriers to the uptake of PMTCT services in all of the analyzed studies. One of the reasons given by the mother for not participating in the PMTCT program was inaccessibility to PMTCT centers, according to a study conducted by Mukhtar-Yola in 2006 at the Aminu Kano Teaching Hospital in Kano, which examined the records of HIV-positive infants. More financial hardships and expenses, especially those related to childbirth, affected people's decisions to use PMTCT treatments at health clinics. This was the situation in southeast Nigeria, where a study conducted by Okon⁹³ found that HIV-positive pregnant women's decisions about delivery were influenced by the high expense of treatment. Hospital service non-utilization was further discouraged by stigma and prejudice from nurses, which included non-acceptance, unpleasant attitudes, and a lack of confidentiality.

Nurturing factors influencing PMTCT in Nigeria

Nurturers in the reviewed literature relate to how family and/or community factors influence decisions and actions regarding the uptake of PMTCT services in Nigeria, either favorably or unfavorably. A portion of the positive nurturers' category was determined by the declaration of seropositive status and the subsequent support from family members. These results are in keeping with other research suggesting that the initial and most effective support networks for family members living with HIV/AIDS are still their communities and families⁹⁴. A study conducted in Addis Ababa, where a different study found that 51.7% of women disclosed their sero-status and received support when they told their partners about their HIV status⁹⁵. In addition to being crucial for PMTCT programs, family support offered the best opportunity to implement preventive measures, including adhering to ARV therapy. For instance, it has been noted that in Lagos, pregnant women's adherence to ARVs is influenced by disclosing their HIV status and receiving treatment support from their partners⁹⁶. The decision to and continued use of baby feeding was similarly impacted by the disclosure of sero-positive status to partners⁹⁷.

Traditional beliefs and practices that are shaped by family contexts and impact PMTCT decisions or health-seeking behaviors, in addition to these positive nurturing variables. For instance, "the desire to have children" has become a common existential perception held by many HIV-positive men and women living in Nigeria due to the extensive use of ARVs for HIV therapy, as previously mentioned⁹⁸. According to study

by Onalu participants, maintaining lineage continuity and posterity were the primary motivations for desiring to procreate. Strong cultural attachments to having children, the stigma attached to childlessness, the importance of children in agricultural economies, the role that children play in inheritance, the impact of childbearing on women's status, and the role that children play in caring for the elderly all seemed to have an impact on these desires⁹⁹.

However, some aspects of family environments adversely impacted choices and behaviors related to PMTCT. A study conducted in southern Nigeria found that not disclosing sero-positive status was considerably more likely when one of the following factors was present: fear of divorce, single status, low educational attainment¹⁰⁰. Similarly, "fear regarding the spread of the information, stigma, and deterioration in the relationship with the spouse" were the three most often cited reasons for non-disclosure among HIV-positive moms in Benin City, Nigeria. In Nnewi, Nigeria, HIV-positive pregnant women's non-adherence to ARVs was also influenced by their failure to disclose their HIV-positive status¹⁰¹. In many situations, partner testing turned out to be a poor practice among women who declared their HIV status. Moreover, despite the strong cultural attachment to having children in Nigeria, there was evidence of a significant desire to procreate. However, findings from the reviewed literature also suggested that in certain situations, decisions not to reproduce were influenced by awareness of sero-positive status. For instance, in a study of HIV-positive men and women in the Niger Delta Region, the authors discovered that the reasons given for choosing not to have more children included fear of dying and

leaving behind orphans, fear of contracting a sero-discordant partner and child, and fear of becoming too sick to be able to provide for the child financially¹⁰². Mixed feeding practices were driven by stigma and family pressure to breastfeed among newly diagnosed HIV-positive women. According to one study, the high proportion of mixed feeding practices among a cohort of HIV-positive women in the south-south region of Nigeria was impacted by family members' opinions about feeding practices that are culturally and socially acceptable, as well as by the lack of access to appropriate feeding counseling support¹⁰³.

Studies have shown that factors that influence mother-to-child transmission of HIV/AIDS is hindering. A study conducted by Abebe¹⁰⁴ on factors influencing prevention of mother-to-child HIV transmission service utilization among HIV-positive women in Amhara National Regional State, Ethiopia stated that Mother to child transmission (MTCT) of HIV is the major source of HIV infection among children below the age of 15 years. Prevention of mother to child transmission (PMTCT) service has been an important way in preventing HIV infections in infants. However, improving PMTCT service uptake and continuum of care still remains a significant impediment in the Amhara Region of Ethiopia. The study aimed to explore factors that hinder and promote PMTCT service utilization among HIV-positive women. The findings of the study revealed that there are a range of factors that influence HIV-positive women on PMTCT service utilization. Stigma, discrimination, limited knowledge on HIV, lack of partner and family support, and not getting friendly service from health facilities were factors that might hinder PMTCT service

utilization¹⁰⁵. The experiences of HIV-positive mothers revealed that continuous partner support, previous history of getting HIV free child, good health worker support, and advice by a mother support group were factors that promote the utilization of PMTCT service. Strengthening community awareness on HIV, engaging male involvement in PMTCT care and getting friendly service were the key determinants for better PMTCT service utilization¹⁰⁶.

In a study conducted by Iwelunmoin¹⁰⁷ he stated that as ambitious goals are established and unprecedented resources deployed towards the elimination of mother-to-child transmission of HIV globally by 2015, there is clearly a need to develop effective family-oriented, culture-centered community-based PMTCT programs in Nigeria so as to improve the low uptake of PMTCT services. Another study conducted by Nyarko¹⁰⁸ in Bosome Freho District in the Ashanti region of Ghana stated that the impact of HIV/AIDS on women and children has called for a higher increase in global commitment and response to the prevention of mother-to-child transmission (PMTCT). The study investigated the knowledge, attitudes and practices of pregnant women regarding PMTCT of HIV in Bosome Freho District in the Ashanti region of Ghana. the level of knowledge was high (77.0%), attitudes were good (71.1%), and the practice of PMTCT was high (95.9%). However, the knowledge of participants on the importance of exclusive breastfeeding, the moments when HIV transmission occurs, and the merits of elective caesarean sections as an HIV preventive method were grossly insufficient. Knowledge was influenced by the level of education (AOR=19 (95% CI: 1.08-333.82); p=0.04); attitudes were influenced

by the level of knowledge regarding PMTCT (AOR=5.3 (95% CI: 2.76-10.35); $p<0.001$). interventions to improve the knowledge, attitudes and practices regarding PMTCT should focus more on women with less than Senior High School (SHS) level of education. Exclusive breastfeeding and elective caesarean sections, though effective in reducing transmission of HIV from the mother to the child, could be missed opportunities in reducing the burden of HIV in this community¹⁰⁹.

2.2 Theoretical Review

PRECEDE-PROCEED MODEL

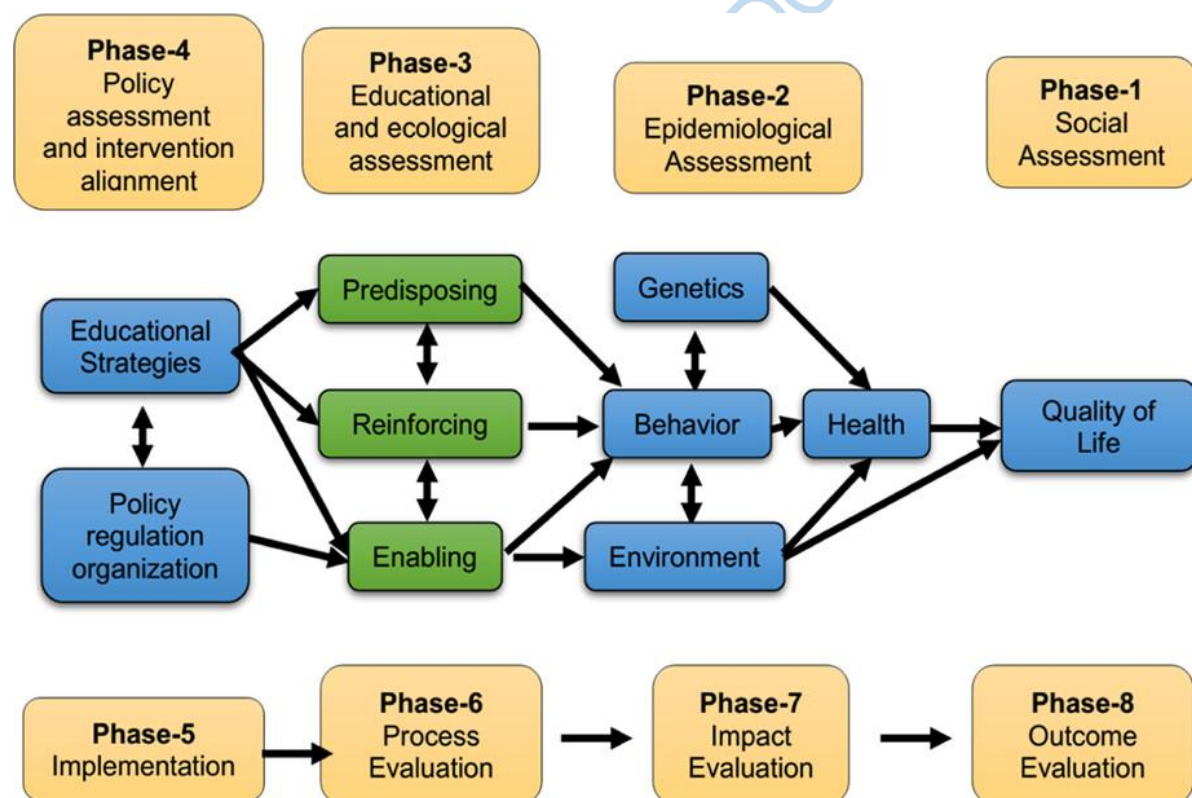


Fig 2.1: Precede-Proceed model¹¹⁰.

Phase 1: Social Diagnosis

In Ilorin, establishing and strengthening support networks is crucial for improving MTCT prevention practices. Support networks can facilitate the exchange of information about MTCT, provide emotional support to women, and reduce stigma associated with HIV/AIDS. By involving women of reproductive age and community members in decision-making, local ownership and commitment to MTCT prevention can be fostered. Empowering these women through community-based projects can lead to more effective and culturally relevant prevention strategies, addressing systemic issues such as stigma and limited healthcare access.

Phase 2: Epidemiological Diagnosis

Community-based HIV testing and counseling services are vital in Ilorin to enhance awareness and facilitate early intervention for MTCT. Providing accessible and anonymous testing can help identify HIV-positive women early, enabling timely initiation of antiretroviral therapy (ART) and reducing the risk of MTCT. Addressing the barriers that women face in accessing traditional healthcare services, such as socioeconomic challenges and stigma, is essential. Tailoring community-based programs to local conditions and socioeconomic factors can improve the effectiveness of prevention initiatives.

Phase 3: Behavioral and Environmental Diagnosis

In Ilorin, addressing behavioral and environmental factors is key to improving MTCT prevention. Training community members as counselors who understand local

cultural contexts can help build trust and promote open dialogue about HIV/AIDS. Educating women about MTCT and preventive measures in a culturally sensitive manner can combat stigma and misinformation. Addressing environmental factors such as healthcare access, education, and socioeconomic status is crucial. Women may face challenges in negotiating safe sex practices due to cultural norms and gender dynamics, so promoting gender equality and improving access to education and healthcare services are essential steps.

Phase 4: Educational and Organizational Diagnosis

Education plays a fundamental role in MTCT prevention. In Ilorin, community leaders, educators, and healthcare professionals should collaborate to provide accurate information about HIV transmission and prevention. Educational efforts should focus on debunking myths, addressing misconceptions, and fostering open discussions about HIV/AIDS. Community-driven workshops, awareness campaigns, and peer-led conversations can effectively spread knowledge and reduce stigma. Tailoring educational programs to align with local cultural beliefs and norms can enhance their impact.

Predisposing Factors

To influence MTCT prevention behaviors, it's important to address predisposing factors such as knowledge and self-perception of risk. In Ilorin, targeted education can help women understand their susceptibility to MTCT and the importance of preventive measures. Increasing knowledge about HIV transmission and prevention

strategies can lead to greater acceptance and participation in prevention programs. Addressing cultural norms and attitudes towards sexual health is also crucial in shaping positive health behaviors.

Reinforcement Factors

Positive reinforcement can significantly impact MTCT prevention practices. In Ilorin, sharing personal success stories and providing incentives such as free health check-ups or community recognition can encourage women to adopt preventive measures. Community support and acknowledgment of healthy behaviors can reinforce the importance of MTCT prevention and motivate ongoing participation.

Enabling Factors

Enabling factors such as access to educational programs, skill-building initiatives, and affordable preventative tools are critical. In Ilorin, ensuring that condoms and other preventive measures are readily available and affordable can help overcome financial barriers. Establishing community-based and mobile health services can improve access to HIV testing, counseling, and treatment, making it easier for women to engage in preventive practices.

Phase 5: Administrative and Policy Diagnosis

Effective administrative and policy measures are essential for the success of MTCT prevention programs. In Ilorin, involving community members in the design and implementation of prevention initiatives can enhance their effectiveness. Drawing on

successful examples from other regions, such as Thailand's "100% Condom Programme," can provide valuable insights for developing and scaling MTCT prevention strategies in Ilorin. Ensuring that policies support community engagement and address local needs can improve the overall impact of prevention efforts.

Application of PRECEDE–PROCEED Model

The PRECEDE–PROCEED model stands as one of the most widely applied frameworks in health education and health promotion. It was originally proposed by Lawrence W. Green in 1974 as a logic model for structuring health education and later expanded with Marshall W. Kreuter in 1991, evolving into a comprehensive ecological approach to program planning¹¹⁸. The central premise of the model is that health behaviors and outcomes, such as those relating to the prevention of mother-to-child transmission (PMTCT) of HIV, can be best understood and influenced when planners begin by identifying the desired health outcomes and then work backward to determine the factors that must be addressed to achieve those outcomes. By combining both educational and ecological perspectives, the model provides a structured guide for diagnosing health-related problems and designing, implementing, and evaluating interventions that are contextually appropriate¹²¹.

The model is organized into two major components, PRECEDE and PROCEED. The PRECEDE portion, an acronym for Predisposing, Reinforcing, and Enabling Constructs in Educational Diagnosis and Evaluation, emphasizes the assessment of individual and community needs through a systematic process of diagnosis. This

involves a social diagnosis to understand the community's perception of quality of life, an epidemiological and behavioral diagnosis to identify priority health problems, and an educational and ecological diagnosis to determine the predisposing, enabling, and reinforcing factors that influence behavior¹²¹. The PROCEED component, which stands for Policy, Regulatory, and Organizational Constructs in Educational and Environmental Development, focuses on the administrative, policy, and environmental supports necessary for implementing health interventions, as well as the evaluation of processes, impacts, and outcomes¹¹⁷. By merging these two elements, the model recognizes that health promotion goes beyond individual behavior change and requires attention to broader social and environmental determinants.

Several assumptions underlie the PRECEDE-PROCEED model. First, it assumes that the active participation of the target population is crucial for success. This means that women of reproductive age in Ilorin, who are directly affected by HIV and the risk of vertical transmission, must be engaged in identifying the problems and shaping the solutions that will affect them¹²⁰. Second, the model assumes that health and health behaviors are influenced by multiple factors, both individual and environmental, and thus interventions must be multidimensional, addressing not only knowledge and attitudes but also the accessibility of services, availability of resources, and the presence of supportive policies¹²¹. Third, the model is based on the logic that planning should begin with clearly defined outcomes and then proceed backward to identify the strategies most likely to achieve those outcomes, thereby ensuring alignment between goals and interventions¹²². Finally, the model assumes that effective programs

must be both data-driven and participatory, combining empirical evidence with the lived experiences and priorities of the community¹¹⁹.

Despite its strengths, the PRECEDE–PROCEED model has been subject to some criticisms. One of the most common critiques is that it is resource-intensive. Because it requires extensive community participation, data collection, and multi-level analysis, it can be time-consuming and costly, which poses challenges in low-resource settings such as many parts of sub-Saharan Africa, including Nigeria¹¹⁸. Another criticism is that the model is sometimes viewed as too complex and over-comprehensive, making it difficult for first-time users or organizations with limited technical expertise to apply it fully¹¹⁷. Additionally, although the model was revised to incorporate ecological dimensions, some scholars argue that in practice it still tends to place heavy emphasis on individual behavior change, potentially neglecting deeper structural and systemic determinants of health such as poverty, gender inequality, and health system weaknesses¹¹⁹. Furthermore, the model was initially conceptualized as a tool for cost–benefit evaluation in health education but lacks a built-in mechanism for systematically analyzing costs and benefits across alternative interventions, which may limit its utility for policy-level decision-making¹¹⁸.

Nevertheless, the relevance of the PRECEDE–PROCEED model to this study is significant. In examining the factors influencing PMTCT practices among women of reproductive age in Ilorin, the model offers a structured framework for identifying the range of influences that shape women’s preventive behaviors. Through its social and

epidemiological diagnosis, the model helps capture both community perceptions of HIV and the actual prevalence of the disease in the study area. The educational and ecological diagnosis is particularly relevant for identifying predisposing factors such as knowledge of HIV transmission, attitudes toward HIV testing, and beliefs about antiretroviral therapy; enabling factors such as the availability of antenatal testing services, drug supply, and access to healthcare facilities; and reinforcing factors such as partner support, family encouragement, and health worker motivation. By integrating these factors, the model allows for a holistic understanding of why some women adhere to PMTCT guidelines while others do not.

In addition, the administrative and policy diagnosis component of the model is essential in the Nigerian context, where policies on HIV prevention and maternal health may exist but are inconsistently implemented. This stage provides an avenue for assessing whether there are sufficient resources, trained personnel, and political will to sustain PMTCT programs in Ilorin. The implementation, monitoring, and evaluation components of the PROCEED portion are also highly relevant, as they offer tools for measuring the effectiveness of interventions aimed at reducing mother-to-child transmission rates. For example, process evaluation would help determine whether women are being adequately reached with health education campaigns, while impact evaluation would measure changes in knowledge, attitudes, and preventive behaviors. Outcome evaluation would then focus on the long-term reduction in the rate of vertical transmission in Kwara State.

2.3 Review of Empirical Studies

A study in Sudan found that access to antenatal HIV testing during pregnancy and the level of uptake of services for Prevention of Mother-to-Child Transmission (PMTCT) are very low as <1% and <10%, respectively¹¹¹. The study revealed that most women felt susceptible to HIV infection with perceived high severity, but this perception has not translated into positive attitudes toward the importance of HIV testing during pregnancy.

In Indonesia, 72% of women had knowledge of mother-to-child transmission (MTCT) of HIV. Factors associated with knowledge include age, education, wealth, and location. In 2022, there were around 1.2 million women and girls living with HIV, and the rate of MTCT in Kenya remains unacceptably high at 8.9%¹¹². In Nigeria, 1.9 million people are living with HIV, and women constitute the most affected group¹¹³. To eliminate MTCT in Nigeria, a detailed understanding of the multi-level factors contributing to MTCT is necessary, as women living with HIV encounter specific challenges to preventing MTCT, such as late initiation of antenatal care leading to delayed HIV screening, struggles with maternal adherence to ART, difficulties remaining engaged in care, and barriers to adhering to infant feeding recommendations.

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2.4 Conceptual Framework

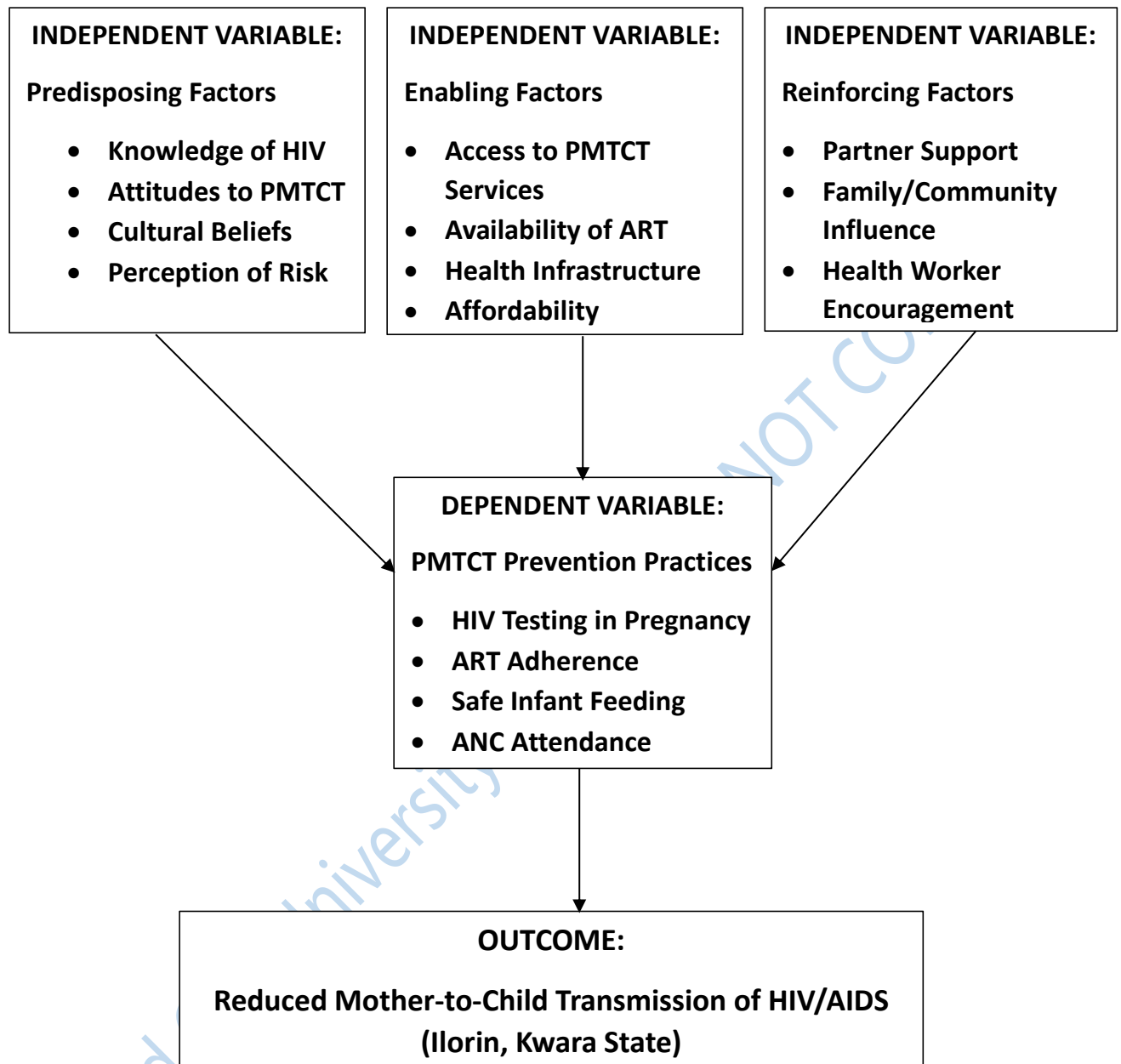


Fig 2.2: Conceptual Model, (Researcher, 2025).

The conceptual framework illustrates how predisposing, enabling, and reinforcing factors interact to influence the prevention practices of mother-to-child transmission (PMTCT) of HIV/AIDS among women of reproductive age in Ilorin, Kwara State.

Predisposing factors such as knowledge about HIV transmission, attitudes toward PMTCT services, cultural beliefs, and perception of risk play a foundational role in motivating or discouraging women from adopting preventive practices. For example, a woman who understands the importance of antiretroviral therapy (ART) and perceives herself at risk of transmitting HIV to her child is more likely to adhere to PMTCT guidelines.

Enabling factors represent the structural and systemic supports that make preventive behaviors feasible. In Ilorin, these include the accessibility and affordability of PMTCT services, the availability of ART, and the adequacy of healthcare infrastructure and trained personnel. Even if women have the knowledge and willingness, poor access to services or drug stock-outs could limit their ability to practice PMTCT effectively.

Reinforcing factors highlight the role of social influences and support systems. Spousal approval, family encouragement, peer support, and the reinforcement provided by healthcare workers during antenatal visits are critical in sustaining women's adherence to HIV testing, ART, and safe infant feeding practices.

When these three categories of factors converge positively, they influence the dependent variable, PMTCT prevention practices, which include HIV testing during

pregnancy adherence to ART, safe infant feeding practices, and regular antenatal care attendance. These practices, when consistently applied, lead to the ultimate outcome of reduced mother-to-child transmission of HIV/AIDS in Ilorin, Kwara State.

This framework, guided by the PRECEDE–PROCEED model (Green, 1974; Green & Kreuter, 1991), is highly relevant to the study because it underscores that prevention of mother-to-child transmission is not determined by a single factor but by the combined effect of individual, systemic, and social influences. It therefore provides a comprehensive lens for assessing the barriers and facilitators to effective PMTCT practices in the study population.

2.5 Summary of Gap in Literature

Over 90% of new childhood HIV infections globally result from mother-to-child transmission¹¹⁴. In Nigeria, this issue remains a significant concern, largely due to limited knowledge among women of reproductive age about HIV/AIDS and its transmission¹¹⁵. Early identification of HIV and timely intervention are critical in improving treatment outcomes and reducing the risk of mother-to-child transmission (MTCT)¹¹⁶. Effective prevention methods are closely linked to increasing awareness and knowledge about MTCT.

Despite the global emphasis on spreading knowledge and raising awareness as key strategies for HIV prevention and control, there is a substantial gap in research focusing on MTCT in specific regions of Nigeria, such as Ilorin, Kwara State. This gap in research leads to inadequate evidence on the prevalence of MTCT and limits the

development of targeted interventions. Consequently, this research gap contributes to insufficient preventive measures and hinders the effectiveness of interventions aimed at reducing MTCT.

Addressing this gap in research is essential for strengthening the health system, improving intervention strategies, and enhancing knowledge among women of reproductive age to better protect them from HIV/AIDS.

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Chapter Three

Methodology

3.1 Research Design

This study adopted a descriptive research design to examine the factors influencing the prevention practices of mother-to-child transmission (MTCT) of HIV/AIDS among women of reproductive age (19–45 years) residing in the southern and western Local Government Areas (LGAs) of Ilorin, Nigeria. The two selected LGAs, Ilorin West and Ilorin South, include a total of 23 wards were chosen due to their higher-than-average HIV prevalence rates.

The descriptive design is suitable for this study because it allows for the exploration of the prevalence and factors influencing MTCT prevention without attempting to establish causal relationships. This design provides a snapshot of the current practices, challenges, and factors affecting MTCT prevention within the study population at a specific point in time¹. By collecting data on variables of interest at a single time point², this approach is well-suited to understanding the practices and factors associated with MTCT prevention in the selected LGAs. It helped to identify patterns and correlations in prevention behaviors among women of reproductive age in Ilorin West and Ilorin South.

3.2 Population of the Study

The study population consisted of women of reproductive age, specifically between 19-45 years in Ilorin, Kwara State, Nigeria.

3.2.1 Inclusion Criteria

The study included consenting women of reproductive age (19 - 45 years) residing in Ilorin, who were either pregnant or have recently given birth, and have accessed antenatal or PMTCT services.

3.2.2 Exclusion Criteria

The study excluded women outside the reproductive age range (19-45years), those not residing in Ilorin, women who were critically ill or unable to provide informed consent, those who have not accessed antenatal or PMTCT services at selected healthcare facilities, and participants who refused or withdraw consent at any stage of the study.

3.3 Sampling and Sampling Techniques

A multistage sampling technique was used for this study. Simple random sampling is a fundamental sampling technique in which every unit within a population has an equal and independent chance of being selected for a study. This method ensured that the sample chosen was representative of the broader population, thereby reducing

selection bias and enhancing the generalizability of the study findings. The first stage was simple random sampling to select 2 Local Government Areas (Ilorin South and West LGAs) out of the 16 LGAs in Ilorin. However, a random number generator (using statistical software, or manual tools like a random number table) was employed to draw numbers within the range of 1 to 16. The numbers corresponding to Ilorin South and Ilorin West are noted if randomly selected, thereby confirming their inclusion. The second stage was to use simple random sampling to select health facilities where PMTCT is being offered. The third stage was to select women between the ages of 19-45 years who attends the clinic. The simple random sampling technique gave the women of reproductive age (19 – 45 years) living with HIV/AIDS the opportunity of selection without bias. The simple random sampling approach is beneficial for this study because it provides a robust means of selecting representative LGAs without reliance on subjective judgment.

In calculating the sample size for this study, the Leslie Kish formula was employed. The prevalence rate (30%) that was used was based on the study by Yakasai³ on knowledge of mother to child transmission of HIV among women of child bearing age in Nigeria.

Leslie Kish's formula is $n = z^2 pq / d^2$

Where:

n: The number of sample size

z: The standard normal value for a 95% confidence level, which is set at **1.96**.

P: 30%⁴

q= 1-p

d: degree of accuracy at 5% (or 0.05).

Calculation:

Since $n = z^2 pq / d^2$

$$n = 1.96^2 \times 0.30 \times 0.70 / 0.05^2$$

$$n = 323$$

However, this study factor in the attrition rate so the validity and reliability of the study are not affected.

To calculate the attrition rate,

$$\text{Attrition Rate} = (\text{Initial sample size} - \text{Sample size}) / (\text{Initial sample size}) \times 100$$

If dropouts are 10 participants, an incomplete response is 5 participants, and exclusion based on criteria is 3 participants.

$$\text{Sample size} = 323 - (10 + 5 + 3)$$

$$= 323 - 18$$

$$= 305.$$

$$\text{Since Attrition Rate} = (\text{Initial sample size} - \text{Sample size}) / (\text{Initial sample size}) \times 100$$

$$\text{Attrition Rate} = (323 - 305) / 323 \times 100$$

Attrition rate = 5.6%

The attrition number = $(5.6/100) \times 323$

Attrition number = 18

Final sample size = (Initial sample size + Attrition number)

Final sample size = $(323 + 18)$

Final sample size = 341

3.4 Description of Research Instrument

In this study, the research instruments were grouped into sections.

Section A: Sociodemographic Characteristics: consisted of questions that explored the respondent's socio-demographic characteristics which include age, marital status, sex, religion, income level, occupation and educational level. This is crucial for comprehending the sample's makeup ensuring it represents a larger community.

Section B: Knowledge: This section explored the level of knowledge of women of reproductive age with HIV/AIDS on prevention practices of mother-to-child transmission. Knowledge was measured using a scaling option. The characteristics such as knowledge on the transmission of HIV, and knowledge on preventive methods towards MTCT of HIV.

Section C: Attitude: This aimed at getting data on attitudes towards prevention practices of mother-to-child transmission of HIV/AIDS among women of reproductive age. Attitude was measured using the scale option. The characteristics include the attitude in the importance of preventive practices and the level of trust in PMTCT. The data on attitudes towards the MTCT among women of reproductive age helped discover their beliefs and attitudes towards the preventive practice.

Section D: Perception: The perception of prevention practices of mother-to-child transmission of HIV/AIDS including their religious affiliation, perceived benefit of ART, and cultural attitudes towards clinic visits was investigated in this section.

Section E: MTCT Prevention Practices: This section assessed the prevention practices of MTCT of HIV/AIDs among women of reproductive ages, this helped to assess respondents' preventive practices towards HIV Transmission.

Section F: Factors: This evaluated the factors that influenced women of reproductive age on prevention practices of mother-to-child transmission of HIV/AIDS. The factors include; social and cultural factors and how they affect assessing the prevention practice.

Measurement of Variable:

Level of Knowledge: Level of knowledge of women of reproductive age with HIV/AIDS on prevention practices of MTCT contained 10 items with a 5-point Likert scale. The total obtainable score was 50, and the mean score of 46 was used as cutoff

point. Scores < 46 were categorized as low knowledge score, while scores ≥ 46 was categorized as good knowledge score.

Attitude towards MTCT prevention practices: This section contained 7 items with a 5-point Likert scale. The total obtainable score was 35, and the mean score of 22 obtained for the population studied was used as cutoff point. Scores < 32 were categorized as negative attitude while scores ≥ 32 were categorized as a positive attitude score.

Perception on Prevention Practices of MTCT contained 5 items: The mean score obtained for the population studied on perception was 22.5; scores < 23 were categorized as negative perception, while scores ≥ 23 were categorized as positive perception.

Preventive Practice of MTCT: contained 10 items with a 5-point Likert scale. The total obtainable score was 50, and the mean score obtained on practice for the study population was 45; scores < 45 were categorized as low practice, while those ≥ 45 as high practice.

Factors affecting PMTCT: For factors affecting the prevention practices of mother-to-child transmission of HIV/AIDS, there were three categories including: Partner involvement, stigmatization and cultural beliefs.

Partner involvement had 6 items using a 5-point Likert scale. The highest obtainable score on partner's involvement is 30, and the lowest is 6. The mean score is 25. Scores

below the mean score of 25 were classified as low, while those ≥ 25 were classified as high. 50% of the respondents belonged to the low and high partner's involvement categories.

Stigmatization: had 6 items using a 5-point Likert scale. The highest obtainable score on stigmatization is 30, and the lowest is 6. The mean score is 19. Scores below the mean score of 19 were classified as low, while those ≥ 19 were classified as high. More than half 180 (53.6%) of the respondents (53.6%) experienced high stigmatization.

Cultural Beliefs: had 10 items using a 5-point Likert scale. The highest obtainable score on cultural beliefs is 50, and the lowest is 10. The mean score is 19.4. Scores below the mean score of 19 were classified as low, while those ≥ 19 were classified as high. The majority of the respondents (57.1%) have positive cultural beliefs.

3.5 Validity of the Research Instrument

The validity of the research instrument used in this study was guaranteed by ensuring that the questionnaire's items fully capture the full range of the assessment on the knowledge and prevention practices of mother-to-child transmission of HIV/AIDS among women of reproductive age in the South and West Regions of Ilorin, Kwara State. The content validity of the questionnaire was tested by having experts in the field review the questionnaire to ensure that it covers all relevant aspects of the concept being measured. Construct validity analysis of the questionnaire was carried out through factor analysis to provide insights into the structure and relationship

between the variables. However, to determine whether the instrument performs as predicted, hypothesis testing based on the theoretical framework is also required.

Face validity analysis of the questionnaire was carried out by experts in the field of HIV/AIDS, including clinicians, researchers, and public health specialists. This ensured that the writings, paper content, and arrangement appear to measure what they are supposed to measure.

3.6 Reliability of the Research Instrument

To ensure the reliability of the structured questionnaire designed to assess factors influencing prevention practices of mother-to-child transmission (PMTCT) of HIV/AIDS among women of reproductive age in Ilorin, Kwara State, Nigeria, a thorough evaluation process was conducted. The research instrument undergo a pilot test, and its reliability was assessed using Cronbach's Alpha Score to confirm that the questions are structured in a standardized manner.

A pilot test was used, using 10% of the final sample size, which amounts to 34 women of reproductive age in Ladoke Akintola University Teaching Hospital, Ogbomosho, Nigeria. The pilot test aimed to evaluate the questionnaire's feasibility, refine the methodology, and ensure that it effectively measures the knowledge and awareness of PMTCT among the target population.

Cronbach's Alpha was employed to assess the internal consistency of the questionnaire items. A result of 0.7 or higher indicates good reliability and suggests that the items collectively measure the intended construct. This process helped

provide clear instructions, ensure the questions are easy to understand, and confirm that the respondents accurately represent the intended population. The result from the Pilot test showed that all the data collection instruments were reliable. It was observed that the scale measuring Knowledge of Mother-to-Child Transmission Prevention Practices has $\alpha = .751$, the scale measuring attitude towards mother-to-child transmission prevention practices has $\alpha = .824$, the scale measuring perception of mother-to-child transmission prevention practices has $\alpha = .805$, the scale measuring mother-to-child transmission prevention practices has $\alpha = .930$, and the scale measuring the factors influencing preventive practices such as partner's involvement, stigmatization, and cultural beliefs had $\alpha = .907$.

3.7 Administration of the Research Instrument

For this research study, the data collection process was carefully crafted to gain an in-depth understanding of the factors influencing prevention practices for mother-to-child transmission (PMTCT) of HIV/AIDS among women of reproductive age in Ilorin, Kwara State, Nigeria.

The primary data collection method involved paper-based questionnaires, which was thoughtfully designed to gather extensive information relevant to the study. These questionnaires included questions that assess respondents' knowledge of PMTCT practices. This helped determine how well-informed the women are about various preventive measures such as antiretroviral therapy (ART), safe delivery practices, and appropriate infant feeding options.

In addition to evaluating knowledge, the questionnaire investigated the knowledge, attitudes displayed by the respondents and perceptions towards PMTCT practices. This aimed to reveal any beliefs or attitudes that might affect the adoption or effectiveness of these practices. By gaining insights into respondents' views, the study better identify the barriers or facilitators influencing PMTCT practices.

The questionnaire also explored various factors affecting PMTCT practices, including personal, social, and systemic issues like access to healthcare services, social support networks, stigma, and economic constraints. Understanding these factors is essential for pinpointing specific challenges and opportunities to enhance PMTCT interventions.

Data collection required 4 researcher assistants including the principal researcher. The research assistants were trained on how to administer the questionnaires effectively to ensure accurate data collection. The data collection occurred during Antenatal Care (ANC) days (Wednesday and Thursday) for collection of data at each health facility, targeting women who are actively engaged in antenatal care. A total number of 341 respondents were used in this study following the calculated sample size. The data collection with each participant allotted approximately 10 minutes to complete the questionnaire. This timeframe was designed to ensure comprehensive responses while efficiently managing the sample size of 341 participants. The data collection was conducted two days a week by following the antenatal clinic days that happen only on Wednesdays and Thursdays in a week. A total duration of 6 weeks with an average of

25 respondents per clinic while considering only the antenatal clinic days was used for data collection.

This methodical approach ensured that the collected data is both detailed and representative of the target population, offering valuable insights into the factors influencing PMTCT practices among women in Ilorin. By employing a structured questionnaire and carefully managing the data collection process, the study aimed to yield reliable and actionable findings to guide future interventions and support strategies.

3.8 Method of Data Analysis

SPSS version 25 was used to enter and analyze the data. The process began with presenting descriptive statistics through frequency tables, and charts and summarizing continuous variables with measures of central tendency and dispersion.

Chi-square tests was used to assess the association of the independent variables including: educational status, religious affiliation and age with knowledge, attitude, perception and practice of mother-to-child transmission of HIV/AIDS. The association of the other independent variables that are continuous with mother-to-child HIV/AIDS transmission prevention practices in nature was assessed.

3.9 Ethical Approval

Ethical Boards of Lead City University as well as the Ministry of Health, Kwara state, Nigeria was visited for ethical approval on this study. However, by getting

participants' informed consent, maintaining their privacy and confidentiality, not using deceptive study design techniques, and giving them the option to withdraw at any moment, the danger of damage in dissertation research was reduced. Participants must be aware of the conditions of their participation in the study and what is expected of them to give their informed consent.

Preserving secrecy and anonymity was an additional pragmatic aspect of research ethics. Avoiding deceptive practices was important in this study, as in some cases covert research may require it to maintain participant anonymity regarding the identity of the observer and/or the goal of the study.

However, research participants was given the option to leave the study process, except for covert observation, which occurs when it is not practical to inform everyone in given research setting what the researcher is doing. There was no coercion or pressure applied to the participants to prevent them from withdrawing.

Endnotes

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Chapter Four

Results and Discussion of Findings

4.1 Demographic Data Analysis

Table 4.1: Demographical Distribution of Respondents

S/N	Variables		Frequency	Percentages (%)
1.	Age	19 – 24	45	13.4
		25 – 30	99	29.5
		31 – 36	90	26.8
		37 – 42	68	20.2
		43 and above	34	10.1
2.	Marital Status	Single	105	31.3
		Married	195	58.0
		Divorced	15	4.5
		Widowed	12	3.6
		Cohabiting	3	.9
		Separated	6	1.8
3.	Highest Level of Education	No Formal Education	40	11.9
		Primary Education	25	7.4
		Secondary Education	44	13.1
		Tertiary Education	227	67.6
4.	Occupation	Unemployed	67	19.9
		Self-employed	102	30.4
		Private Sector Employee	99	29.5
		Public Sector Employee	64	19.0
		Others	4	1.2
5.	Religion	Islam	221	65.8
		Christianity	104	31.0
		Traditional	9	2.7
		Other	2	.6

6.	Number of Children	None	90	26.8
		1 -2	113	33.6
		3 – 4	113	33.6
		5 or More	20	6.0

Source: Researcher Fieldwork, 2025

Table 4.1 showed that the majority of the respondents (29.5%) were within the age group of 25 to 30 years with a mean age of 32.65 ± 7.32 ; 58.0% were married; 67.6% completed tertiary education; 30.4% were self-employed; 65.8% were Muslims while 33.6% had 1 to 2 children and 3 to 4 children respectively.

4.2 Presentation of Data

4.2.1 Research Questions

Research Question One:

What is the level of knowledge on prevention practices of mother-to-child transmission of HIV/AIDS among women of reproductive age in Ilorin, Kwara State, Nigeria?

Table 4.2: Level of Knowledge on Prevention Practices of Mother-To-Child Transmission of HIV/AIDs among women of Reproductive age in Ilorin, Kwara State, Nigeria

S/N	Items	SA F(%)	A F(%)	N F(%)	D F(%)	SD F(%)	Mean $\pm$ SD
7.	HIV testing during pregnancy is an important step in preventing mother-to-child transmission of HIV.	267 (79.5)	67 (19.9)	2 (.6)	0(0)	0(0)	4.8 $\pm$.42
8.	Antiretroviral medications can significantly reduce the risk of passing HIV from mother to child	249 (74.1)	76 (22.6)	11 (3.3)	0 (0)	0 (0)	4.7 $\pm$.52
9.	Attending regular antenatal visits helps monitor and prevent mother-to-child transmission of HIV.	236 (70.2)	88 (26.2)	9 (2.7)	3 (.9)	0 (0)	4.7 $\pm$.58
10	HIV-positive mothers need to follow specific medical guidelines to reduce the risk of transmitting HIV to their baby	253 (75.3)	67 (19.9)	16 (4.8)	0 (0)	0 (0)	4.7 $\pm$.55
11	HIV/AIDS can be transmitted from mother to child during pregnancy.	215 (64.0)	93 (27.7)	20 (6.0)	5 (1.5)	3 (.9)	4.5 $\pm$.75
12	It is important to have regular medical check-ups during pregnancy to prevent MTCT of HIV/AIDS.	233 (69.3)	93 (27.7)	10 (3.0)	0 (0)	0 (0)	4.7 $\pm$.53
13	Breastfeeding can increase the risk of MTCT of HIV/AIDS.	188 (56.0)	127 (37.8)	15 (4.5)	6 (1.8)	0 (0)	4.5 $\pm$.67
14	I have received adequate information on MTCT prevention practices from healthcare providers.	223 (66.4)	91 (27.1)	19 (5.7)	3 (.9)	0 (0)	4.6 $\pm$.64
15	I know the ways to prevent MTCT of HIV/AIDS	215 (64.0)	95 (28.3)	23 (6.8)	3 (.9)	0 (0)	4.6 $\pm$.66

16	There are safe delivery practices that reduce the risk of MTCT of HIV/AIDS.	183 (54.5)	115 (34.2)	29 (8.6)	6 (1.8)	3(.9)	4.4±.79
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Grand Mean = 4.62

Table 4.2 showed that the majority of the respondents (99.4%) indicated that HIV testing during pregnancy is an important step in preventing mother-to-child transmission of HIV; A total of 96.7% of the respondents indicated that Antiretroviral medication can significantly reduce the risk of passing HIV from mother to child; 96.4% of the respondents also said attending regular antenatal visits helps monitor and prevent mother-to-child transmission of HIV; 95.2% indicated that HIV-positive mothers need to follow specific medical guidelines to reduce the risk of transmitting HIV to their baby while 91.7% were of the opinion that HIV/AIDS can be transmitted from mother to child during pregnancy. The findings further showed that 97% of the mother indicated that it is important to have regular medical check-ups during pregnancy to prevent MTCT of HIV/AIDS; a total of 93.8% of the respondents said breastfeeding can increase the risk of MTCT of HIV/AIDS; 93.5% also said they have received adequate information on MTCT prevention practices from healthcare providers; 92.3% said they know ways to prevent MTCT of HIV/AIDS while 88.7% indicated that there are safe delivery practices that reduce the risk of MTCT of HIV/AIDS. All these are indications that the level of knowledge on prevention practices of MTCT of HIV/AIDS is high among women of reproductive age in Ilorin, Kwara State, Nigeria. Also, all the mean values were above 3, and the Grand mean of 4.62 out of a possible score of 5 also attests to the fact that the level of knowledge is high. Table 4.2.1 below further presents a summary of the level of knowledge of

prevention practices of mother-to-child transmission of HIV/AIDS among women of reproductive age in Ilorin, Kwara State, Nigeria.

Table 4.2.1 Summary of Level of Knowledge

Level	Frequency	Percentage	Mean
Low	129	38.4	4.6
High	207	61.6	

The mean score obtained on knowledge was 4.6. Hence, the decision benchmark will be 4.6; score below 4.6 were considered as low knowledge, while score above 4.6 were considered as high knowledge. Findings from table 4.2.1 showed that the majority (61.6%) of the respondents have high knowledge of preventive practice of mother-to-child transmission of HIV/AIDS among women of reproductive age in Ilorin, Kwara State, Nigeria.

Research Question Two: What is the attitude towards prevention practices of mother-to-child transmission of HIV/AIDS among women of reproductive age in Ilorin, Kwara State, Nigeria?

Table 4.3: Attitude Towards Prevention Practices of Mother-to-Child Transmission of HIV/AIDS among women of Reproductive age in Ilorin, Kwara State, Nigeria

S/N	Items	SA F(%)	A F(%)	N F(%)	D F(%)	SD F(%)	Mean $\pm$ SD
17.	All pregnant women should undergo HIV testing to prevent mother-to-child transmission.	244 (72.6)	82 (24.4)	10(3.0)	0(0)	0(0)	4.7 $\pm$.52
18.	I am in favour of pregnant women receiving counselling on HIV prevention at every antenatal visit.	170 (50.6)	160 (47.6)	6(1.8)	0(0)	0(0)	4.5 $\pm$.54
19.	I support the use of antiretroviral drugs during pregnancy as an effective	217 (64.6)	90 (26.8)	17(5.1)	12 (3.6)	0(0)	4.5 $\pm$.75

	method to prevent mother-to-child transmission of HIV.							
20.	HIV-positive mothers should follow medical guidelines to lower the risk of transmitting HIV to their child.	220 (65.5)	103 (30.7)	10(3.0)	3(.9)	0(0)	4.6±.59	
21.	Community education on PMTCT is important for reducing HIV/AIDS transmission among women of reproductive age.	217 (64.6)	107 (31.8)	12(3.6)	0(0)	0(0)	4.6±.56	
22.	Regular testing and follow-up care for both mother and child are essential steps in HIV prevention	222 (66.1)	107 (31.8)	7(2.1)	0(0)	0(0)	4.6±.52	
23.	Partners of HIV-positive pregnant women should also undergo be tested and given counselling	217 (64.6)	90 (26.8)	29(8.6)	0(0)	0(0)	4.6±.65	
Grand Mean = 4.59								

Source: Researcher Fieldwork, 2025

Table 4.3 showed that a total of 97% of the respondents supported that all pregnant women should undergo HIV testing to prevent mother-to-child transmission; 98.2% were in favour of pregnant women receiving counselling on HIV prevention at every antenatal visit; 91.4% were in support of the use of antiretroviral drugs during pregnancy as an effective method to prevent mother-to-child transmission of HIV; 96.2% supported that HIV-positive mothers should follow medical guidelines to lower the risk of transmitting HIV to their child while 96.4% were of the opinion that community education on PMTCT is important for reducing HIV/AIDS transmission

among women of reproductive age. The table further showed that 97.9% were in support of regular testing and follow-up care for both mother and child as essential steps in HIV prevention and 91.4% of the respondents indicated that partners of HIV-positive pregnant women should also undergo tests and be given counselling. From these, it can be said that the respondents have positive attitude towards prevention practices of MTCT of HIV/AIDS. Also, all the mean values of the responses to each item were above 3 which is the average and the grand mean of 4.59 also supported the conclusion that the attitude of the respondents is positive. Table 4.3.1 below further presents a summary of the nature of attitude towards prevention practices of mother-to-child transmission of HIV/AIDS among women of reproductive age in Ilorin, Kwara State, Nigeria.

Table 4.3.1 Summary of Attitude towards Prevention Practices

Level	Frequency	Percentage	Mean
Negative	117	34.8	32.1
Positive	219	65.2	

The mean score obtained on attitude was 32.1; scores below 32 were categorised as a negative attitude, while those above were categorised as a positive attitude. The above table showed that the majority of the respondents (65.2%) have a positive attitude towards prevention practices of mother-to-child transmission of HIV/AIDS among women of reproductive age in Ilorin, Kwara State, Nigeria.

Research Question Three:

What is the perception on prevention practices of mother-to-child transmission of HIV/AIDS among women of reproductive age in Ilorin, Kwara State, Nigeria?

Table 4.4 Perception Towards Prevention Practices of Mother-to-Child transmission of HIV/AIDS among women of Reproductive age in Ilorin, Kwara State, Nigeria

S/N	Items	SA F(%)	A F(%)	N F(%)	D F(%)	SD F(%)	Mean ± SD
24.	I think taking antiretroviral medications during pregnancy is a reliable way for HIV-positive mothers to protect their babies.	214 (63.7)	82(24.4)	18(5.4)	20(6.0)	2(.6)	4.4±.89
25.	I feel that mother-to-child transmission of HIV can be effectively prevented if mothers follow the recommended medical practices	197 (58.6)	120(35.7)	19(5.7)	0(0)	0(0)	4.5±.60
26.	I believe that mothers who use PMTCT services are more likely to have healthy, HIV-negative babies.	209 (62.2)	102(30.4)	25(7.4)	0(0)	0(0)	4.6±.63
27.	I think that many mothers understand how important it is to follow PMTCT practices to prevent HIV transmission to their babies.	171 (50.9)	110(32.7)	51(15.2)	2(.6)	2(.6)	4.3±.80
28.	I believe that Preventive MTCT programs make a meaningful difference in preventing HIV transmission from mother to child.	232 (69.0)	90(26.8)	14(4.2)	0(0)	0(0)	4.7±.56

Grand Mean = 4.5

Source: Researcher Fieldwork, 2025

Table 4.4 revealed that a total of 88.1% of the respondents indicated that they think taking antiretroviral medications during pregnancy is a reliable way for HIV-positive mothers to protect their babies; 94.3% indicated that they feel that mother-to-child transmission of HIV can be effectively prevented if mother follow the recommended medical practices; 92.6% believed that mothers who use PMTCT services are more likely to have healthy, HIV-negative babies; 8% indicated that they think many mothers understand how important it is to follow PMTCT practices to prevent HIV transmission to their babies while 95.8% said they believe that preventive MTCT programs make a meaningful difference in preventing HIV transmission from mother to child. These figures are indication that the perception of the respondents is positive. The mean values all greater than 3 also supported this view while the grand mean of 4.5 is also an indication that the respondents have a positive perception towards prevention practices of mother-to-child transmission of HIV/AIDs. Table 4.4.1 below further presents a summary of the nature of perception to prevention practices of mother-to-child transmission of HIV/AIDS among women of reproductive age in Ilorin, Kwara State, Nigeria.

Table 4.4.1 Summary of Perception to Preventive Practices

Level	Frequency	Percentage	Mean
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Negative	108	32.1	22.5
Positive	228	67.9	

The mean score obtained on perception was 22.5, scores below 22 were categorised as negative perception, while those above were categorised as positive perception. Findings from Table 4.4.1 showed that the majority of the respondents (67.9%) have a positive perception of prevention practices of mother-to-child transmission of HIV/AIDS among women of reproductive age in Ilorin, Kwara State, Nigeria.

Research Question Four:

What is the level of Preventive Practices of Mother-To-Child transmission of HIV/AIDS among women of Reproductive age in Ilorin, Kwara State, Nigeria?

Table 4.5: Level of Preventive Practices of Mother-to-Child Transmission of HIV/AIDs among women of reproductive age in Ilorin, Kwara State, Nigeria

S/N	Items	SA F(%)	A F(%)	N F(%)	D F(%)	SD F(%)	Mean ± SD
29.	I consistently took the prescribed antiretroviral medications during pregnancy as directed by my healthcare provider.	193 (57.4)	94 (28.0)	35 (10.4)	0(0)	14(4.2)	4.3±1.0
30.	I attended all my scheduled antenatal care appointments to ensure the health of my baby and myself.	190 (56.5)	126 (37.5)	20 (6.0)	0(0)	0(0)	4.5±.61
31.	I followed the advice given by my healthcare provider regarding safe breastfeeding practices to prevent HIV transmission.	155 (46.1)	162 (48.2)	19 (5.7)	0(0)	0(0)	4.4±.60
32.	Consistently sought and attended counseling sessions focused on mother-to-child HIV prevention during my pregnancy.	182 (54.2)	135 (40.2)	19 (5.7)	0(0)	0(0)	4.5±.60
33.	I closely followed medical instructions on how to care for my newborn to minimize any risk of HIV transmission.	182 (54.2)	130 (38.7)	24 (7.1)	0(0)	0(0)	4.5±.63
34.	I avoided practices that could increase the risk of HIV transmission to my baby, based on my healthcare provider's guidance.	182 (54.2)	132 (39.3)	22 (6.5)	0(0)	0(0)	4.5±.62
35.	I adhered to all the recommendations from my healthcare provider to reduce the risk of mother-to-child transmission of HIV.	195 (58.0)	111 (33.0)	30 (8.9)	0(0)	0(0)	4.5±.66
36.	I made sure that I and my child attended follow-up appointments to monitor for any potential HIV transmission.	203 (60.4)	106 (31.5)	25 (7.4)	2(.6)	0(0)	4.5±.66
37.	I strictly followed medical	179	128	27	2(.6)	0(0)	4.4±.67

	instructions on infant feeding practices to help prevent HIV transmission to my baby.	(53.3)	(38.1)	(8.0)			
38.	I promptly reported any issues with my prescribed preventive practices to my healthcare provider for additional guidance.	177	127	32	0(0)	0(0)	4.4±.66
		(52.7)	(37.8)	(9.5)			
Grand Mean = 4.5							

Source: Researcher Fieldwork, 2025

Table 4.5 showed that a total of 85.4% of the respondents indicated that they consistently took the prescribed antiretroviral medications during pregnancy as directed by their healthcare provider; 94% each said they attend all their scheduled antenatal care appointments to ensure the health of their baby and themselves; 94.3% said they followed the advice given by their healthcare provider regarding safe breastfeeding practices to prevent HIV transmission; 94.4% indicated that they consistently sought and attend counselling sessions focused on mother-to-child HIV prevention during their pregnancy while 92.9% indicated that they closely followed medical instructions on how to care for their newborn to minimize any risk of HIV transmission. Further enquiry into the table showed that a total of 93.5% of the respondents indicated that they avoided practices that could increase the risk of HIV transmission to their baby, based on their healthcare provider's guidance; 91% said they adhered to all the recommendation from their healthcare provider to reduce the risk of mother-to-child transmission of HIV; 91.9% indicated that they made sure that both themselves and their child attended follow-up appointments to monitor for any potential HIV transmission; 91.4% said they strictly followed medical instructions on infant feeding practices to help prevent HIV transmission to their baby while 90.5% said they promptly reported any issues with their prescribed preventive practices to their healthcare provider for additional guidance. Implied here is that the preventive practice is high among the respondents. In addition, with all the mean values greater than 3 and the grand mean of 4.5, one could conclude that the level of preventive practices is high. Table 4.5.1 below further presents a summary of the level of

engagement in preventive practices of mother-to-child transmission of HIV/AIDS among women of reproductive age in Ilorin, Kwara State, Nigeria.

Table 4.5.1: Summary of Preventive Practices

Level	Frequency	Percentage	Mean
Low	133	39.6	44.6
High	203	60.4	

The mean score obtained on practice was 44.6; scores below 44 were categorised as low practice, while those above were categorised as high practice. Findings from Table 4.5.1 showed that the majority of the respondents (60.4%) have high preventive practices of mother-to-child transmission of HIV/AIDS among women of reproductive age in Ilorin, Kwara State, Nigeria.

Research Question Five:

What are the factors affecting prevention practices of mother-to-child transmission of HIV/AIDS among women of reproductive age in Ilorin, Kwara State, Nigeria?

Table 4.6: Partner's involvement and HIV prevention practices

S/N	Items	SA F(%)	A F(%)	N F(%)	D F(%)	SD F(%)	Mean $\pm$ SD
39.	My partner supports me in attending antenatal care visits.	152 (45.2)	102(30.4)	70(20.8)	12(3.6)	0(0)	4.2 $\pm$.88
40.	My partner participates in discussions about HIV/AIDS prevention during my pregnancy.	118 (35.1)	128(38.1)	85(25.3)	5(1.5)	0(0)	4.1 $\pm$.81

41.	My partner accompanies me to health education sessions on HIV/AIDS.	86 (25.6)	143(42.6)	67(19.9)	33(9.8)	7(2.1)	3.8±.99
42.	I feel supported by my partner in making healthcare decisions related to pregnancy.	156 (46.4)	124(36.9)	54(16.1)	0(0)	2(.6)	4.3±.77
43.	My partner encourages me to follow MTCT prevention practices.	145 (43.2)	132(39.3)	57(17)	2(.6)	0(0)	4.3±.75
44.	My partner's involvement has a positive impact on my adherence to MTCT prevention practices.	150 (44.6)	119(35.4)	56(26.7)	7(2.1)	4(1.2)	4.2±.88

Grand Mean = 4.12

Table 4.6 showed that a total of 75.6% of the respondents indicated that their partner supports attending antenatal care visits; 73.2% said their partner participates in discussions about HIV/AIDs prevention during their pregnancy, while 68.2% said their partner accompanies them to health education sessions on HIV/AIDS. The table goes on to show that 83.3% of the respondents said they feel supported by their partner in making healthcare decisions related to pregnancy; 82.5% said their partner encourages them to follow MTCT prevention practices, while 80% said their partner's involvement has a positive impact on their adherence to MTCT prevention practices. In addition, with over 60% of respondents indicating that their partner's involvement

encourages them to participate in preventive practices, one can conclude that partners' involvement is perceived to affect engagement in MTCT HIV/AIDS preventive practices. Below is a summary of the partner's involvement based on two levels:

Table 4.6.1: Summary of Partner's Involvement

Level	Frequency	Percentage	Mean score
Low <25	168	50	24.8
High ≥25	168	50	

The highest obtainable score on partner's involvement is 30, and the lowest is 6. The mean score is 25. Scores below the mean score of 25 were classified as low, while those ≥ 25 were classified as high. 50% of the respondents belonged to the low and high partner's involvement categories.

Table 4.7 HIV/AIDS Stigmatisation and Preventive Practices

S/N	Items	SA F(%)	A F(%)	N F(%)	D F(%)	SD F(%)	Mean ± SD
45.	I have experienced discrimination due to my HIV status when accessing healthcare	78 (23.2)	90(26.8)	67(19.9)	47(14)	54(16.1)	1.4±1.4

	services.								
46.	I feel uncomfortable disclosing my HIV status due to fear of stigma.	115	83(24.7)	68(20.2)	43(12.8)	27 (8)	3.7±1.3		
47.	Others view of me has prevented me from attending antenatal care or HIV counselling sessions.	64	94 (28)	46(13.7)	81(24.1)	51(15.2)	3.1±1.4		
48.	I worry that my community may judge me if they find out I am accessing MTCT prevention services.	89	88(26.2)	76(22.6)	60(17.9)	23 (6.8)	3.5±1.3		
49.	I avoid certain healthcare facilities to prevent being stigmatized for my HIV status.	99	29 (8.6)	35(10.4)	99(29.5)	74 (22)	3.0±1.6		
50.	Stigma reduces my willingness to seek support from healthcare providers.	30	75(22.3)	49(14.6)	79(23.5)	103(30.7)	2.6±1.6		
Grand Mean = 3.2									

Source: Researcher Fieldwork, 2025

Table 4.7 showed that a total of 50% of the respondents indicated that they have experienced discrimination due to their HIV status when accessing healthcare services; 58.9% said they feel uncomfortable disclosing their HIV status due to fear of stigma;

47% indicated that others view of the prevent the from attending antenatal care or HIV counselling sessions while 52.7% of the respondents said they worry that their community may judge the if they find out that they are accessing MTCT prevention services. In addition, a good number of the participants (38.1%) indicated that they avoid certain healthcare facilities to prevent being stigmatized for their HIV status, while 31.2% said that stigma reduces their willingness to seek support from healthcare providers. With the pattern of responses where there are least, over 30% of the respondents indicating that stigma influences their engagement in preventive practices, it can be said that stigmatization is influential in reducing engagement in preventive practices. Below is a summary of stigmatization based on two levels:

Table 4.7.1: Summary of Stigmatization

Level	Frequency	Percentage	Mean
Low <19	156	46.4	19
High $\geq$ 19	180	53.6	

The highest obtainable score on stigmatization is 30, and the lowest is 6. The mean score is 19. Scores below the mean score of 19 were classified as low, while those $\geq$ 19 were classified as high. The majority of the respondents (53.6%) experienced high stigmatization.

Table 4.8: Cultural Beliefs and Preventive Practices

S/N	Items	SA F(%)	A F(%)	N F(%)	D F(%)	SD F(%)	Mean $\pm$ SD
51.	HIV/AIDS can be caused by spiritual attacks or curses.	20 (6)	9(2.7)	31 (9.2)	87 (25.9)	189(56.3)	1.8 $\pm$ 1.1
52.	Witchcraft or juju is responsible for the spread of HIV/AIDS.	23 (6.8)	0 (0)	21 (6.3)	89 (26.5)	203(60.4)	1.7 $\pm$ 1.1
53.	Sharing food or drinks with someone who has HIV/AIDS can transmit the virus.	18 (5.4)	3 (.9)	59(17.6)	83 (24.7)	173(51.5)	1.8 $\pm$ 1.1
54.	Children born to parents with HIV/AIDS will always have the virus.	21 (6.3)	5(1.5)	28(8.3)	119 (35.4)	163(48.5)	1.8 $\pm$ 1.1
55.	You can get HIV/AIDS by hugging or shaking hands with an infected person.	41 (12.2)	6(1.8)	21(6.3)	100 (29.8)	168(50)	2.0 $\pm$ 1.3
56.	HIV/AIDS only affects people who engage in immoral sexual behaviour.	37 (11)	59(17.6)	30(8.9)	71 (21.1)	139(41.4)	2.4 $\pm$ 1.4
57.	Married couples are safe from contracting HIV/AIDS if they stay faithful.	49 (14.6)	55(16.4)	28(8.3)	103 (30.7)	101(30.2)	2.7 $\pm$ 3.2
58.	Traditional healers are more effective than hospitals in treating HIV/AIDS.	29(8.6)	4(1.2)	25(7.4)	95 (28.3)	183(54.5)	1.8 $\pm$ 1.2
59.	Using herbal remedies can completely eliminate the HIV virus from the body.	29(8.6)	0(0)	21(6.3)	120 (35.7)	166(49.4)	1.8 $\pm$ 1.1

60.	HIV/AIDS is a punishment for sins or bad behaviour.	28(8.3)	0(0)	28(8.3)	90	190(56.5)	1.8±1.2
					(26.8)		

Grand Mean = 2.0

Source: Researcher Fieldwork, 2025

Table 4.8 showed that a majority of the respondents (82.2%) disagreed that HIV/AIDS can be caused by spiritual attacks or curses; 86.9% disagreed that witchcraft or juju is responsible for the spread of HIV/AIDS while 76.2% disagreed that sharing food or drinks with someone who has HIV/AIDS can transmit the virus. Also, 83.9% of the respondents disagreed that children born to parents with HIV/AIDS will always have the virus; 79.8% were of the opinion that one cannot get HIV/AIDS by hugging or shaking with an infected person while 62.5% disagreed that HIV/AIDS only affects people who engage in immoral sexual behaviour. In addition, 60.9% of the participants disagreed that married couples are safe from contracting HIV/AIDS if they stay faithful; 82.5% said submitted that traditional healers are not more effective than hospitals in treating HIV/AIDS; 85.1% said using herbal remedies cannot completely eliminate the HIV virus from the body while a total of 83.3% of the respondents' said HIV/AIDS is not a punishment for sines or bad behaviour. Given that the majority of the study participants responded negatively to the role of cultural beliefs, one could say that cultural belief has a minimal influence. Below is a summary of the cultural beliefs based on two levels:

Table 4.8.1: Summary of Cultural Beliefs

Level	Frequency	Percentage	Mean
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Negative	144	42.9	19.4
Positive	192	57.1	

The highest obtainable score on cultural is 50, and the lowest is 10. The mean score is 19.4. Scores below the mean score of 19 were classified as low, while those ≥ 19 were classified as high. The majority of the respondents (57.1%) have positive cultural beliefs.

4.3 Hypotheses Testing

H₀₁: There is no significant association between educational status and level of knowledge on prevention practices of mother-to-child transmission of HIV/AIDS among women of reproductive age in Ilorin, Kwara State, Nigeria.

Table 4.9: Association between educational status and level of knowledge on prevention practices of mother-to-child transmission of HIV/AIDS among women of reproductive age in Ilorin, Kwara State, Nigeria.

	Knowledge			χ^2	df	p-value
	Low n(%)	High n (%)	Total			
Highest Education attained						
No Formal Education	24 (60.0)	16 (40.0)	40	13.9	3	0.003
Primary Education	14 (56.0)	11 (44.0)	25			
Secondary Education	16 (36.4)	28 (63.6)	44			

Tertiary Education	75 (33.0)	152 (67.0)	227
Total	129 (38.4)	207 (61.6)	336

Source: Researcher Fieldwork, 2025

Table 4.9 showed that there is a significant association between level of education and level of knowledge on prevention practices of mother-to-child transmission of HIV/AIDS among women of reproductive age in Ilorin, Kwara, State, Nigeria; $\chi^2(3) = 13.999$ $p < 0.05$. Thus, the null hypothesis is not accepted. This simply implies that variation in the level of education is associated with variation in the level of knowledge.

H₀₂: There is no significant association between religious affiliation and attitude towards preventive practices of mother-to-child transmission of HIV/AIDS among women of reproductive in Ilorin, Kwara State, Nigeria.

Table 4.10: Association between religious affiliation and attitude towards preventive practices of mother-to-child transmission of HIV/AIDS among women of reproductive in Ilorin, Kwara State, Nigeria.

Religion	Attitude		Total	χ^2	df	p-value
	Negative n (%)	Positive n (%)				
Islam	85 (38.5)	136 (61.5)	221	4.62	3	0.05
Christianity	30 (28.8)	74 (71.2)	104			
Traditional	2 (22.2)	9 (77.8)	9			
Total	117(34.8)	219 (65.2)	336			

Source: Researcher Fieldwork, 2025

Table 4.10 showed that there is no significant association between religious affiliation and attitude towards preventive practices of mother-to-child transmission of HIV/AIDS among women of reproductive age in Ilorin, Kwara, State, Nigeria; $\chi^2 = 4.624$ $p = 0.05$. Thus, the null hypothesis is not rejected.

H₀₃: There is no significant association between marital status and preventive practices of mother-to-child transmission of HIV/AIDS among women of reproductive age in Ilorin, Kwara State, Nigeria.

Table 4.11: Crosstabulation Summary showing the Association between Marital Status and Preventive Practices of Mother-to-Child Transmission of HIV/AIDs among Women of Reproductive In Ilorin, Kwara State, Nigeria.

Marital status	Preventive Practices			χ^2	df	p-value
	Low n (%)	High n (%)	Total			
Single	37 (35.2)	68 (64.8)	105	5.773	3	0.329
Married	79 (40.5)	116 (59.5)	195			
Divorced	6(40.0)	9(60.0)	15			
Widowed	5(41.7)	7(58.3)	12			
Cohabiting	3 (100.0)	0(0.0)	3			
Separated	3(50.0)	3(50.0)	6			
Total	133 (39.6)	203 (60.4)	336			

Source: Researcher Fieldwork, 2025

Table 4.11 showed that there is no significant association between marital status and preventive practice of mother-to-child transmission of HIV/AIDS among women of reproductive age in Ilorin, Kwara, State, Nigeria; $\chi^2(3) = 5.773$ $p > 0.05$. Thus, the null hypothesis is not rejected.

Ho4: There is no significant association between religious affiliation and factors affecting prevention practices of mother-to-child transmission of HIV/AIDS among women of reproductive in Ilorin, Kwara State, Nigeria.

Table 4.12: Crosstabulation summary showing the association between religious affiliation and factors affecting prevention practices of mother-to-child transmission of HIV/AIDS among women of reproductive in Ilorin, Kwara State, Nigeria.

		Religion				Total	χ^2	df	p-value
		Islam	Christianity	traditional	Others				
		n (%)	n (%)	n (%)	n (%)				
Partners Involvement	Low	84(70.6)	30 (25.4)	5 (4.2)	0 (0.0)	119	4.936	3	.148
	High	137 (63.1)	74 (34.1)	4(1.8)	2 (0.9)	217			
Stigmatisation	Low	83 (77.6)	24 (22.4)	0(9)	0(2)	107	11.942	3	.004
	High	138 (60.3)	80 (34.9)	9 (3.9)	2 (0.9)	229			
Cultural Beliefs	Low	129 (67.5)	58 (30.4)	2 (1.0)	2(1.0)	191	5.622	3	.097
	High	92 (63.4)	46 (31.7)	7 (4.8)	0 (0.0)	145			

Source: Researcher Fieldwork, 2025

The association values reported in Table 4.12 above are Fisher's exact chi-square values because there were multiple cells with values less than 5. The partner's involvement ($\chi^2 (3) = 4.936$ $p > 0.05$) and cultural beliefs ($\chi^2 (3) = 5.622$ $p > 0.05$) have no significant association with religious affiliation. This implies that the respondent's

religious affiliation does not relate to their partner's involvement and cultural beliefs. The table, however, shows that stigmatisation is significantly associated with religious affiliation; $\chi^2(3) = 11.942$, $p < 0.04$. This simply implies that religious affiliation is linked to differences in HIV/AIDS-related stigmatisation levels. As evident from the table, both low and high stigmatisation are more common among participants of the Islamic faith, but the percentage of high stigmatisation increases significantly among Christians, traditionalists, and those of other religions, while the reverse was the case among Muslims.

Table 4.13: Association of Partner's Involvement, Stigmatization and Cultural Beliefs to Attitude towards MTCT HIV/AIDS Preventive Practices

Variables	Attitude		Test statistic
	Negative	Positive	
Partner's Involvement	F(%)	F(%)	
Low	78 (46.4)	90 (53.6)	$\chi^2 = 19.9$; $df = 1$; $p = 0.001$
High	39 (23.2)	129 (76.8)	
Stigmatization			
Low	61 (39.1)	95 (60.9)	$\chi^2 = 2.35$; $df = 1$; $p = 0.125$
High	56 (31.1)	124 (68.9)	
Cultural Beliefs			
Positive	44 (22.9)	148 (77.1)	$\chi^2 = 27.975$; $df = 1$; $p < .001$
Negative	73 (50.7)	71 (49.3)	

Source: Researcher Fieldwork, 2025

Table 4.13 above shows that the Partner's involvement and cultural beliefs were significantly associated with attitude towards MTCT HIV/AIDS preventive practices, whereas stigmatization has no significant association with attitude towards MTCT HIV/AIDS preventive practices. These findings suggest that high partners' involvement and positive cultural beliefs, the higher the number of those with a positive attitude towards MTCT HIV/AIDS preventive practices

Table 4.14: Association of Partners' Involvement, Stigmatization and Cultural Beliefs to Perception of MTCT HIV/AIDS Preventive Practices

Variables	Perception		Test statistic
Partner's	Negative	Positive	
Involvement	F(%)	F(%)	$\chi^2 = 13.97$; df = 1; p < .001
Low	70 (41.7)	98 (58.3)	
High	38 (22.6)	130 (77.4)	
Stigmatisation			
Low	51 (32.7)	105 (67.3)	$\chi^2 = .040$; df = 1; p = .841
High	57 (31.7)	123 (68.3)	
Cultural Beliefs			
Positive	43 (22.4)	149 (77.6)	$\chi^2 = 19.514$; df = 1; p < .001
Negative	65 (45.1)	79 (54.9)	

Source: Researcher Fieldwork, 2025

Table 4.14 above shows that the Partner's involvement and cultural beliefs were significantly associated with perception of MTCT HIV/AIDS preventive practices,

whereas stigmatisation has no significant association with the perception of MTCT HIV/AIDS preventive practices. These findings simply imply that as partners' involvement and cultural beliefs become more favourable, the number of people with a positive perception of MTCT HIV/AIDS also increases.

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Table 4.15: Association of partner's involvement, stigmatization and cultural beliefs to engagement in MTCT HIV/AIDS preventive practices

Variables	Practice		Test statistic
Partner's	Low	High	
Involvement	F(%)	F(%)	$\chi^2 = 126.95$; df = 1; p < .001
Low	117(69.6)	51(30.4)	
High	16(9.5)	152(90.5)	
Stigmatisation			
Low	63(40.4)	93(59.6)	$\chi^2 = .078$; df = 1; p = .823
High	70(38.9)	110(61.1)	
Cultural Beliefs			
Positive	62(32.3)	130(67.7)	$\chi^2 = 9.96$; df = 1; p = .002
Negative	71(49.3)	73(50.7)	

Source: Researcher Fieldwork, 2025

Table 4.15 above shows that the Partner's involvement and cultural beliefs were significantly associated with engagement in MTCT preventive practices, whereas stigmatisation has no significant association with engagement in MTCT preventive practices. These findings suggest that as partners' involvement and cultural beliefs improve, so does the number of people who engage in high MTCT HIV/AIDS preventive practices.

Table 4.16: Role of Knowledge and Attitude towards MTCT HIV Preventive Practices on Engagement in MTCT HIV/AIDS Preventive Practices

Variables	Practice		Test statistic
Knowledge	Low F(%)	High F(%)	
Low	4 (100)	0 (0)	$\chi^2 = 6.18$; df = 1; p = 0.024
High	129 (38.9)	203 (61.1)	
Attitude			
Negative	72 (61.5)	45 (38.5)	$\chi^2 = 36.18$; df = 1; p < 0.001
Positive	61 (27.9)	158 (72.1)	

Source: Researcher Fieldwork, 2025

Table 4.16 revealed that, knowledge has a significant association with preventive practices. Among women with low knowledge of PMTCT, all respondents (100%) reported low engagement in preventive practices, and none engaged in high-level practices. In contrast, women with high knowledge demonstrated better involvement: 38.9% engaged in low practices, while a majority (61.1%) engaged in high preventive practices. The chi-square test result ($\chi^2 = 6.18$; df = 1) and (p = 0.024) confirm that the observed difference is statistically significant. This finding suggests that knowledge is a key determinant in whether women adopt and maintain effective PMTCT practices.

Similarly, attitude also plays a crucial role. Among women with a negative attitude towards PMTCT, a greater proportion (61.5%) reported low preventive practices compared to 38.5% who engaged in high-level practices. Conversely, women with a positive attitude were more likely to engage in preventive practices, with 72.1% reporting high engagement and only 27.9% reporting low engagement. The chi-square test result ($\chi^2 = 36.18$, $df = 1$; $p < .001$) indicates a very strong statistical significance. This demonstrates that women with positive attitudes towards PMTCT interventions are far more likely to adopt preventive behaviors compared to those with negative attitudes.

Therefore, this study revealed that, both knowledge and attitude towards MTCT HIV/AIDs preventive practices played significant role on women engagement in PMTCT HIV/AIDS preventive practices. Women with high knowledge and positive attitudes were consistently more likely to engage in effective preventive behaviors, underscoring the importance of targeted educational and behavioral interventions in Ilorin, Kwara State.

4.4 Discussion of Findings

The findings on the research question one revealed that 61.6% of women of reproductive age in Ilorin demonstrate high knowledge of prevention practices for mother-to-child transmission of HIV/AIDS. This result implies that a good number of women of reproductive age in Ilorin had above-average knowledge of prevention practices for MTCT of HIV/AIDS. The findings of this study are consistent with those

of Bello et al.¹, where it was reported that 62.6% of the study participants, HIV-positive mothers in primary health care centres in Minna, Niger state had a high level of knowledge. Similarly, in line with the findings of this study, Orji et al.² observed that 69.2% of their study participants, HIV-infected nursing mothers in a tertiary hospital in the southeast, Nigeria, had a high level of knowledge on PMTCT. Although this study was carried out in the North Central, its results are consistent with those carried out in another part of the country. This could be a suggestion that the knowledge of PMTCT is above average across the country.

Analysis of research question two shows that 65.2% of the respondents have a positive attitude towards prevention practices of mother-to-child transmission of HIV/AIDS among women of reproductive age in Ilorin, Kwara State, Nigeria. This finding suggests a generally favourable disposition toward PMTCT interventions among women of reproductive age in this region. The results of this study are consistent with those reported by Bello et al.³ where it was shown that the study participants had a positive attitude towards PMTCT with a 3.1 mean value, which is greater than the average of 2. Although the 65.2% positive attitude rate among the study respondents appears somewhat lower than the 79% reported among antenatal care attendees in Ethiopia's Gurage zone hospitals⁴. This discrepancy may reflect differences in health education programs, cultural contexts, or study methodologies between the two regions.

Findings from research question three show that 67.9% of the respondents indicated a positive perception of prevention practices of mother-to-child transmission of HIV/AIDS. This finding suggests that a substantial majority of women in this study locale recognize the importance and effectiveness of PMTCT interventions. In a similar but higher-level, Saka et al.⁵ revealed an even higher positive perception rate (89%) among women living with HIV, though actual service utilization remained low at 42.9%. This discrepancy between perception and practice suggests that while awareness campaigns may be successfully shaping attitudes, significant barriers persist in translating these positive perceptions into actual PMTCT service uptake. The relatively lower positive perception in Ilorin (67.9%) compared to Ibadan (89%) may reflect differences in study populations (general reproductive-age women versus HIV-positive women in care) or varying intensities of PMTCT education programs.

Research question four shows that the level of engagement in mother-child transmission of HIV/AIDS preventive practices is at 60.4%. This engagement level exceeds the 42.9% utilization rate found among HIV-positive women in Ibadan⁶, suggesting that general population engagement may be higher than service-specific utilization among diagnosed cases. However, it remains substantially lower than the 79% PMTCT service uptake reported in Ethiopia's Gurage zone⁷, highlighting significant regional disparities in program effectiveness.

The fifth research question showed that all the factors, such as partner's involvement, stigmatisation, and cultural beliefs, to some extent affects mother-to-child HIV/AIDS

prevention practices. The finding that male partner involvement is perceived to affect PMTCT engagement reveals a crucial dynamic in HIV prevention efforts. This association emphasises how deeply partner support influences women's ability to adhere to prevention protocols; a pattern consistently observed across sub-Saharan Africa. The South African study by Malindi and Maputle⁸ provides compelling qualitative evidence that when men actively participate through accompanying partners to clinics, supporting ART adherence, and facilitating safe infant feeding practices, PMTCT outcomes improve substantially. This led to Ayalew et al.⁹ conclusion that male partner involvement is an important factor that determines PMTCT, one that is capable of creating an opportunity to reverse the transmission of HIV during labour, pregnancy, and even breastfeeding. This finding is also in line with that of Udeji et al.¹⁰, who reported that male partner involvement is a core factor but often overlooked in promoting PMTCT. Factors responsible for the male partner's involvement, according to Melis and Fikadu¹¹, include his knowledge of PMTCT, his perception of the woman's responsibility, his employment status, such as being employed by the government, cultural barriers, and his educational status. The fifth research question went on to show that stigmatisation is significantly associated with PMTCT. It is prevalent, and the findings showed that a higher proportion of stigmatised participants still engaged in preventive practices than those with low stigmatisation. This suggests that stigma in this case does not deter action; in some cases, it could drive those being stigmatized to adopt protective measures. On the contrary, Sitohang¹² observed that negative stigma from family, the community, and

healthcare providers towards pregnant women could make them reluctant to use the PMTCT programs. This finding is also in opposition to that of Udeji et al.¹³, who reported that persistent stigma and discrimination could hinder access to PMTCT services. Although, access is not the same as uptake and the fact that in the face of higher stigmatisation, the population still showed a reasonably high engagement in PMTCT could be because the value their life or that of their child or perhaps the stigmatisation is not coming from the healthcare provider, hence, it does not affect their intention to get help, even though it could potentially affect other spheres of their life.

The research question further showed that higher or stronger cultural beliefs could hinder preventive practices. It shows that with higher cultural beliefs comes a reduction in preventive practices. In support of these findings, Kamanzi et al.¹⁴ reported that cultural beliefs, among other factors, play a role in exposing babies to the risk of MTCT of HIV and limiting the ability of HIV+ mothers to uptake the PMTCT program through seeking treatment, care, and support. These findings further demonstrated that such beliefs often discourage HIV-positive mothers from engaging with Prevention of Mother-to-Child Transmission (PMTCT) programs, thereby limiting their access to essential treatment, care, and support services. These insights reinforce the notion that addressing sociocultural dimensions is critical in designing effective public health interventions, particularly in communities where tradition heavily influences health-seeking behaviours.

Findings from hypothesis one show that there is a significant association between educational status and level of knowledge on prevention practices of mother-to-child transmission of HIV/AIDS. This simply implies that variation in the level of education is associated with variation in the level of knowledge. This finding is consistent with that of Teshale et al.,¹⁵ whose study on 33 sub-Saharan African countries showed that Women with primary education had 1.22 times higher odds of knowing about MTCT prevention compared to those with no formal schooling, while those with secondary and tertiary education showed even greater advantages 1.35- and 1.41-times higher odds, respectively. Several factors explain why education exerts such a strong influence on PMTCT knowledge. First, schooling provides foundational literacy and critical thinking skills, enabling women to interpret health messages disseminated through clinics, media, and community programs. Second, educated women are more likely to engage with health systems by attending antenatal care, asking questions during consultations, and seeking out additional information. Third, education often comes with greater access to communication technologies, such as radios, mobile phones, and the Internet, which serve as important sources of health information.

The second hypothesis shows that there is no significant association between religious affiliation and attitude towards preventive practices of mother-to-child transmission of HIV/AIDS. This simply implies that religious beliefs could not, in this case, determine attitude towards preventive practices. This is in line with the findings of Awolu et al.¹⁶, who observed that there is no significant association between religious affiliation (Traditional Religion, Christianity, and Islam) and attitude to PMTCT

among pregnant and postpartum HIV-positive women in Enugu Metropolis. The absence of a significant relationship between religion and PMTCT attitudes may be attributed to several factors. First, the predominant religious groups in the area may not hold doctrinal positions that conflict with modern HIV prevention methods. Second, successful public health campaigns may have effectively bridged any potential gaps between religious teachings and medical recommendations. Third, the universal desire to protect children's health might transcend religious differences, creating a common ground for positive attitudes toward prevention.

Hypothesis three also showed that there is no significant association between marital status and preventive practices of mother-to-child transmission of HIV/AIDs. This simply shows that regardless of their marital status, all mothers who are expecting to have a child could be more inclined to protect their child. That is, the choice to engage in practices to prevent mother-to-child transmission of HIV/AIDS may not be dependent on the mother's marital status. In contrast, Akwolu et al.¹⁷ observed that there exists a significant association between marital status and the use of PMTCT services.

The fourth hypothesis showed that among the factors, only stigmatisation has a significant association with religious affiliation. The findings showed that there is an increase in the percentage of participants with higher stigmatisation among Christians, Traditionalists, and people of other religions than was the case under low stigmatisation. In a contrasting report, Youssef et al.¹⁸ observed that being Muslim

compared to being a Christian was associated with a worse attitude towards people living with HIV/AIDs. In a broader view, studying religiosity without making references to the religious affiliation of participants, Wilandika et al.¹⁹ observed a significant positive relationship between religiosity and social stigma of people with HIV/AIDS, that is, more religious people are likely to show stigma to people living with HIV/AIDs. In addition, the hypothesis showed that there is no significant association between the partner's involvement and religious affiliation. This implies that the participant's religious affiliation does not determine the partner's involvement. Furthermore, the findings showed that there is no significant association between cultural beliefs and religious affiliation. This implies that the participants' religious affiliation does not influence their cultural beliefs.

The findings from Tables 4.13, 4.14, and 4.15 collectively underscore the central role of partner's involvement and cultural beliefs in shaping women's attitudes, perceptions, and actual engagement in the prevention of mother-to-child transmission (PMTCT) of HIV/AIDS. Specifically, these results reveal that when partners are actively involved in reproductive health and HIV prevention efforts, and when cultural beliefs are favorable, women are more likely to develop positive attitudes, sustain favorable perceptions, and subsequently adopt preventive practices against MTCT of HIV. In contrast, stigmatization did not show a significant association across these dimensions, which is both noteworthy and somewhat contrary to earlier studies that have strongly emphasized the detrimental impact of stigma. The strong association between partner involvement and women's attitudes toward PMTCT

aligns with findings from a study by Takure²⁰ who noted that male involvement significantly enhances women's willingness to test for HIV during pregnancy, adhere to antiretroviral therapy (ART), and attend antenatal clinics. Similarly, Boadu et al.²³ reported that supportive partners increased adherence to ART and exclusive breastfeeding practices, both of which are crucial in reducing the risk of HIV transmission from mother to child. The implication here is that when male partners are actively engaged, women not only feel supported but also become more empowered to make informed health decisions, leading to stronger commitment to preventive practices.

In the Nigerian context, where decision-making in families is often male-dominated, these findings are particularly relevant. Studies such as those by Stewart et al.²¹ emphasize that in patriarchal societies, male approval and support are critical determinants of whether women utilize PMTCT services. Therefore, the positive correlation between partner involvement and women's attitude, perception, and engagement in this study suggests that interventions aimed at involving men in reproductive health could substantially improve PMTCT outcomes in Ilorin and beyond. Cultural beliefs also emerged as a significant factor influencing attitudes, perceptions, and practices related to PMTCT. This finding resonates with earlier work by Whembolua et al.²², who argued that cultural norms and community-level beliefs strongly shape women's reproductive health behaviors, including decisions about HIV testing and breastfeeding practices. In societies where cultural narratives support health-seeking behavior, women are more inclined to perceive PMTCT as beneficial

and therefore act accordingly. Conversely, negative cultural beliefs, such as misconceptions about HIV being a curse or PMTCT practices being unnatural, have been shown to hinder service uptake²⁴.

Interestingly, stigmatization was not significantly associated with attitudes, perceptions, or practices in this study. This finding contrasts with prior evidence suggesting that stigma is one of the greatest barriers to HIV prevention and treatment²⁵. For instance, stigma has often been cited as a reason why women avoid HIV testing during pregnancy or discontinue ART. However, the absence of a significant relationship here may suggest that in Ilorin, awareness campaigns and community education have reduced the strength of stigma as a determinant of PMTCT practices. It may also imply that supportive partner involvement and favorable cultural beliefs override the negative effects of stigmatization, creating a buffer that encourages women to engage in preventive practices despite possible discrimination.

Taken together, these findings reaffirm the assumptions of the PRECEDE-PROCEED model²⁶, which posits that behavioral outcomes are shaped by predisposing, enabling, and reinforcing factors. In this case, cultural beliefs can be understood as predisposing factors, partner involvement as an enabling and reinforcing factor, while stigma, though traditionally viewed as a barrier, appears to have less predictive power in this context. The model further emphasizes that favorable health outcomes, such as

women's engagement in PMTCT practices. are more likely when enabling and reinforcing conditions outweigh negative influences.

The result of this study revealed that, both knowledge and attitude towards MTCT HIV/AIDs preventive practices played significant role on women engagement in PMTCT HIV/AIDS preventive practices. These findings resonate with previous empirical studies in Sub-Saharan Africa. For instance, research in Nigeria, Olakunde *et al.*²⁸ and Ethiopia Yeshaneh *et al.*²⁷ reported that women with good knowledge of MTCT and favorable attitudes toward preventive interventions are more likely to adopt recommended practices such as consistent antenatal visits, HIV testing, and infant feeding counseling. Conversely, poor knowledge and negative perceptions often correlate with higher levels of non-compliance and increased risk of vertical transmission. The implication of these findings is that interventions aimed at reducing MTCT of HIV should not only focus on disseminating knowledge but also on shaping attitudes. While awareness campaigns and health education remain vital, they must be accompanied by behavioral change strategies, community sensitization, and stigma reduction programs that foster positive perceptions of PMTCT services. Such integrated approaches are supported by the PRECEDE-PROCEED model, which emphasizes that knowledge (predisposing factor) and attitude (reinforcing factor) interact to determine health behaviors.

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Chapter Five

Conclusion

5.1 Summary of Findings

This study was designed to examine the factors influencing prevention practices for mother-to-child transmission of HIV/AIDS among women of reproductive age (19-45 years) in Ilorin, Kwara State, Nigeria. Using a cross-sectional research design, the study surveyed 341 women selected through multistage random sampling from Ilorin South and West Local Government Areas. A total of 336 completed questionnaires were retrieved and analysed. The findings showed that 61.6% of participants demonstrated high knowledge about PMTCT practices, indicating generally good awareness of prevention methods. Similarly, 65.2% of respondents held positive attitudes toward these preventive measures, while 67.9% perceived PMTCT interventions favorably. However, actual engagement in prevention practices stood at 60.4%, suggesting a gap between knowledge and implementation that warrants further attention. The analysis identified education level and male partner involvement as particularly influential factors. Each unit increase in education was associated with a 59.5% improvement in prevention practices, while greater male partner involvement correlated with a 65.7% increase. These findings highlight the importance of both educational attainment and partners' involvement in successful PMTCT implementation. In addition, the hypothesis testing showed that there is a significant association between education and PMTCT knowledge, while religious

affiliation showed no significant relationship with attitudes toward prevention practices. In addition, though religious beliefs didn't affect attitudes, they were associated with levels of HIV-related stigma while marital status showed no significant effect on prevention practices.

5.2 Conclusion

This study provided empirical evidence regarding key determinants of PMTCT practices among reproductive-aged women in Ilorin, Nigeria. The results indicated substantial knowledge and positive attitudes toward prevention measures, though a persistent gap exists between awareness and actual implementation. Educational attainment and male partner involvement emerged as significant predictors of adherence to preventive practices, demonstrating their crucial role in PMTCT success. While religious affiliation showed no association with prevention attitudes, it maintained a significant relationship with HIV-related stigmatization. These findings thus stress the need for multifaceted interventions addressing educational disparities, gender dynamics in healthcare decision-making, and community-level stigma reduction.

5.3 Recommendations

Based on the findings of this study, the following recommendations are made:

Government

1. The government should strengthen public health campaigns and awareness programs to improve women's knowledge on mother-to-child transmission (MTCT) of HIV/AIDS and its prevention strategies, particularly in rural and semi-urban communities.
2. Adequate funding should be allocated to health facilities to ensure availability of preventive services such as antiretroviral therapy (ART), HIV testing during antenatal care, and safe delivery practices.

Policy Makers

3. Policy makers should design and implement gender-sensitive policies that promote positive attitudes and reduce stigma associated with HIV/AIDS, thereby encouraging more women to seek preventive services.
4. They should also integrate community-driven feedback mechanisms into HIV/AIDS prevention programs to address perceptions and cultural barriers influencing women's engagement in preventive practices.

Healthcare Workers

5. Healthcare workers should intensify health education and counseling during antenatal visits, focusing on both knowledge and attitude formation toward MTCT prevention.

6. They should also ensure continuous capacity building and training in evidence-based PMTCT (Prevention of Mother-to-Child Transmission) practices to improve service delivery and patient trust.

Women of Reproductive Age Living with HIV/AIDS

7. Women should actively participate in antenatal care and adhere strictly to prescribed preventive practices, including ART adherence, exclusive breastfeeding where recommended, and regular follow-up visits.
8. Women should also form peer-support groups within their communities to share experiences, challenge misconceptions, and strengthen perception and practice of HIV prevention behaviors.

Community

9. Community leaders and influencers should promote a supportive environment that reduces stigma and discrimination against HIV-positive women, thereby encouraging positive attitudes and perceptions towards MTCT prevention.
10. Community-based organizations should collaborate with health facilities to organize sensitization programs that address cultural, religious, and social barriers affecting women's preventive practices.

5.4 Contribution to knowledge

This study makes several significant contributions to the existing body of knowledge on PMTCT of HIV/AIDS:

1. It provides empirical data on the determinants of PMTCT practices among women of reproductive age in Ilorin, Nigeria, filling a critical gap in localized evidence for this high-prevalence region.
2. The study identifies and quantifies the disconnect between high levels of PMTCT knowledge (61.6%) and lower actual engagement in preventive practices (60.4%), highlighting the need for interventions that bridge this implementation gap.
3. It establishes male partner involvement as the strongest predictor of PMTCT adherence in this context, contributing new evidence on spousal dynamics in HIV prevention within patriarchal societies.
4. While confirming no association between religion and prevention attitudes, the study uniquely documents how religious affiliation correlates with HIV-related stigmatization patterns, advancing understanding of stigma drivers in faith communities.

5.5 Suggested Areas for Further Research

Future studies in this area should focus on:

1. The use of qualitative studies to investigate the sociocultural and structural factors limiting male participation in PMTCT programs, including gender norms, healthcare system accessibility, and community perceptions of masculinity.
2. Evaluating the effectiveness of faith-based interventions in reducing HIV-related stigma.
3. Examining how financial constraints, healthcare access, and policy environments moderate the relationship between knowledge and PMTCT practice adoption.
4. Investigating provider-level challenges in delivering PMTCT services could reveal systemic barriers requiring institutional or policy-level solutions.

Lead City Un.

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Appendix I

Informed Consent Form

Informed consent for “Factors Influencing Prevention Practices of Mother-To-Child Transmission of HIV/AIDS Among Women of Reproductive Age in Ilorin, Kwara State, Nigeria”

This informed consent form is for women of reproductive age in Ilorin, Kwara State, Nigeria participating in the research titled “Factors Influencing Prevention Practices of Mother-To-Child Transmission of HIV/AIDS Among Women of Reproductive Age in Ilorin, Kwara State, Nigeria”

Names, Affiliations and Positions of the researchers conducting the study:

a. Name: Jummai Mohammed Yusuf

Affiliation: Lead City University, Ibadan, Nigeria.

Position: Principal Investigator

b. Name: **Dr. Adeniji Oluwakemi**

Affiliation: Lead City University, Ibadan, Nigeria.

Position: Supervisor

You will be given a copy of the full Informed Consent Form

Part 1: Information Sheet

My name is Jummai Mohammed Yusuf, and presently, I am a postgraduate student of the Department of Public Health, Lead City University, Ibadan. I am conducting a study to understand factors influencing prevention practices of mother-to-child transmission of HIV/AIDS among women of reproductive age in Ilorin, Kwara State, Nigeria. The research requires a questionnaire to understand your experience and views based on the factors that influence you to take preventive measures to prevent mother-to-child transmission of HIV/AIDS.

You do not have to decide today whether or not you will participate in the research. Before you decide, you can talk to anyone you feel comfortable with about the research. If there happens to be any word you need clarification on, you can ask me or

any research assistant around and we will definitely take our time to explain to the best of your understanding.

Purpose of the Research

Previous research indicates that mother-to-child transmission of HIV/AIDS prevalence has not decreased in Nigeria, particularly among women of reproductive age. Also, the effectiveness of intermittent preventive practice amongst women of reproductive age in Ilorin, Kwara State, Nigeria is still not known by all women of reproductive age in Ilorin, which has contributed to the low practice of preventive measures. This was due to limited knowledge of the benefits and effectiveness of the practice. The attitude towards practicing the prevention measures was poor due to an unclear understanding of the effectiveness of this prevention practice. The limited knowledge of this practice led to understanding the effectiveness of intermittent preventive practice against mother-to-child transmission of HIV/AIDS amongst women of reproductive age in Ilorin, Kwara State, Nigeria. The purpose of this study is to identify and examine the factors influencing prevention practices of mother-to-child transmission of HIV/AIDS among women of reproductive age in Ilorin, Kwara State, Nigeria. Findings from this study provided insights into the key barriers and enablers of effective prevention practices, with the aim of informing future interventions and strengthening public health efforts to reduce MTCT of HIV in the region.

Participant Selection

The women of reproductive age in Ilorin, Kwara State, Nigeria will be recruited.

Voluntary Participation

Your participation in this research is entirely voluntary. It is your choice to choose whether to participate or not. Whether you choose to participate or not, all the services you receive at this clinic will continue and nothing will change. You may change your mind later and stop participating even if you agreed earlier.

Duration

The research will take place over a period of 6 weeks.

Risks

There is no known risk involved in participating in this research

Benefits

There may not be any immediate and direct benefit for you but your participation will help us find the answer to the research questions.

Confidentiality

We will not be sharing the identity of participants of this research. Any information that we collect from this research project will be kept confidential. Participants information will be coded with numbers which only the researchers will have access to and it won't be shared except with necessary stakeholders.

Sharing the Results

Only what is permitted by law and research ethics will be shared, participants of the research will be notified through meetings in their individual places after which results will be published in academic journals for academics.

Lead City University Ibadan DO NOT COPY

Contact Information

Who can I contact about this study? If I have questions or concerns about this research Study, whom can I call?

You can call us with your questions or concerns. Our telephone numbers are listed below. Ask questions as often as you want

Miss. Jummai Mohammed Yusuf,

Department of Public Health,

Lead City University, Ibadan

+2347065086178

Jummaimdyusuf1@gmail.com

If you want to speak with someone involved in this research study, please contact:

Dr. Adeniji Oluwakemi

Department of Public Health,

Lead City University, Ibadan

+2348023321735

adenijioluwakemi87@gmail.com

You can talk to them about:

1. Your rights as a research subject

2. Your concerns about the research

3. A complaint about the research and also, if you feel pressured to take part in this research study, or to continue with it, they want to know and can help.

When you call or write about a concern, please provide as much information as possible, including the name of the researcher, the Ethics Committee number (at the top of this form), and details about the problem. This will help Ethics Committee officials to look into your concern. When reporting a concern, you do not have to give your name unless you want to.

Informed Consent Form for Study Participants on “Factors Influencing Prevention Practices of Mother-To-Child Transmission of HIV/AIDS Among Women of Reproductive Age in Ilorin, Kwara State, Nigeria”

Certificate of Consent

I have read the foregoing information, or it has been read to me. I have had the opportunity to ask questions about it and any questions that I have asked have been answered to my satisfaction. I consent voluntarily to participate as a participant in this research.

Name of Participant _____

Signature of Participant _____

Date _____

Day/month/year

If illiterate

A literate witness must sign (if possible, this person should be selected by the participant and should have no connection to the research team). Participants who are illiterate should include their thumb-print as well.

I have witnessed the accurate reading of the consent form to the potential participant, and the individual has had the opportunity to ask questions. I confirm that the individual has given consent freely.

Name of witness _____ AND Thumb print of participant

Signature of witness _____

Date _____
Day/month/year

Statement by the Researcher/Person taking onsent

I have accurately read out the information sheet to the potential participant, and to the best of my ability made sure that the participant understands that participants will be asked to fill a questionnaire to assess their experience and views on prevention of mother-to-child transmission of HIV/AIDS.

I confirm that the participant was given an opportunity to ask questions about the study, and all the questions asked by the participant have been answered correctly

and to the best of my ability. I confirm that the individual has not been coerced into giving consent, and the consent has been given freely and voluntarily.

A copy of this Informed Consent Form has been provided to the participant.

Print Name of Researcher/Person taking the consent _____

Signature of Researcher /Person taking the consent _____

Date _____

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Appendix II



Lead City University
Faculty of Public Health
Motto: Redefining Health

QUESTIONNAIRE

FACTORS INFLUENCING PREVENTION PRACTICES OF MOTHER-TO-CHILD TRANSMISSION OF HIV/AIDS AMONG WOMEN OF REPRODUCTIVE AGE IN ILORIN, KWARA STATE, NIGERIA

Dear Respondents,

My name is **Jummai Mohammed Yusuf**, I am a master's student from the Department of Public Health, Faculty of Basic Medical and Applied Sciences, Lead City University, Ibadan, Oyo State, Nigeria. I am conducting an intervention study to improve maternal and child health outcomes by enhancing knowledge and practices related to the prevention of mother-to-child transmission of HIV/AIDS. This study also contributes to the development of comprehensive care strategies that improve pregnancy management and postnatal care, leading to healthier lives for both mothers and children. This study will involve Women of Reproductive Age in Ilorin, Kwara State, Nigeria. Please note that the completion of this questionnaire is voluntary. All information gathered as a result of your participation in this study will be treated with utmost confidentiality. Your willingness to participate and complete this

questionnaire implies that you have given consent to participate in this study. Thank you for your cooperation

Do you give consent to continue?

- Yes
- No

Jummai Mohammed Yusuf, 07065086178

Section A: Socio-Demographic Information

Kindly indicate your agreement to the questions below by placing a tick ✓ in the appropriate box.

1. What is your age?

A. 19-24 ()

B. 25-30 ()

C. 31-36 ()

D. 37-42 ()

E. 43 and above ()

2. What is your marital status?

A. Single ()

B. Married ()

C. Divorced ()

D. Widowed ()

E. Cohabiting ()

G. Separated ()

3. What is your highest level of education?

A. No formal education ()

B. Primary education ()

C. Secondary education ()

D. Tertiary education ()

4. What is your occupation?

A. Unemployed ()

B. Self-employed ()

C. Private sector employee ()

D. Public sector employee ()

E. other (specify): _____

5. What is your religion?

A. Islam ()

B. Christianity ()

C. Traditional belief ()

D. other (specify): _____

6. How many children do you have?

A. None ()

B. 1-2 ()

C. 3-4 ()

D. 5 or more ()

Section B: Knowledge of Mother-to-Child Transmission Prevention Practices

Kindly indicate your agreement to the questions below by placing a tick ✓ in the appropriate box.

S/N	Item	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
7.	HIV testing during pregnancy is an important step in preventing mother-to-child transmission of HIV.					
8.	Antiretroviral medications can significantly reduce the risk of passing HIV from mother to child					
9.	Attending regular antenatal visits helps monitor and prevent mother-to-child transmission of HIV.					
10.	HIV-positive mothers need to follow specific medical					

	guidelines to reduce the risk of transmitting HIV to their baby					
11.	HIV/AIDS can be transmitted from mother to child during pregnancy.					
12.	It is important to have regular medical check-ups during pregnancy to prevent MTCT of HIV/AIDS.					
13.	Breastfeeding can increase the risk of MTCT of HIV/AIDS.					
14.	I have received adequate information on MTCT prevention practices from healthcare providers.					
15	I know the ways to prevent MTCT of HIV/AIDS					
16.	There are safe delivery					

	practices that reduce the risk of MTCT of HIV/AIDS.					
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Section C: Attitude towards Mother-to-Child Transmission Prevention Practices

Kindly indicate your agreement to the questions below by placing a tick ✓ in the appropriate box.

S/N	Item	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
17.	All pregnant women should undergo HIV testing to prevent mother-to-child transmission.					
18.	I am in favor of pregnant women receiving counselling on HIV prevention at every antenatal visit.					
19.	I support the use of antiretroviral drugs during pregnancy as an effective					

	method to prevent mother-to-child transmission of HIV.					
20.	HIV-positive mothers should follow medical guidelines to lower the risk of transmitting HIV to their child.					
21.	Community education on PMTCT is important for reducing HIV/AIDS transmission among women of reproductive age.					
22.	Regular testing and follow-up care for both mother and child are essential steps in HIV prevention					

23.	Partners of HIV-positive pregnant women should also undergo be tested and given counselling					
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Section D: Perception of Mother-to-Child Transmission Prevention Practices

Kindly indicate your agreement to the questions below by placing a tick ✓ in the appropriate box.

S/N	Item	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
24.	I think taking antiretroviral medications during pregnancy is a reliable way for HIV-positive mothers to protect their babies.					
25.	I feel that mother-to-child transmission of HIV can be effectively prevented if mothers follow the recommended medical practices					
26.	I believe that mothers who use PMTCT services are more likely to have healthy, HIV-					

	negative babies.					
27.	I think that many mothers understand how important it is to follow PMTCT practices to prevent HIV transmission to their babies.					
28.	I believe that Preventive MTCT programs make a meaningful difference in preventing HIV transmission from mother to child.					

Section E: Mother-to-Child Transmission Prevention Practices

Kindly indicate your agreement to the questions below by placing a tick ✓ in the appropriate box.

S/N	Item	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
29.	I consistently took the prescribed antiretroviral medications during pregnancy as directed by my healthcare provider.					
30.	I attended all my scheduled antenatal care appointments to ensure the health of my baby and myself.					
31.	I followed the advice given by my healthcare provider regarding safe breastfeeding practices to					

	prevent HIV transmission.					
32.	Consistently sought and attended counseling sessions focused on mother-to-child HIV prevention during my pregnancy.					
33.	I closely followed medical instructions on how to care for my newborn to minimize any risk of HIV transmission.					
34.	I avoided practices that could increase the risk of HIV transmission to my baby, based on my healthcare provider's guidance.					
35.	I adhered to all the recommendations from my					

	healthcare provider to reduce the risk of mother-to-child transmission of HIV.					
36.	I made sure that I and my child attended follow-up appointments to monitor for any potential HIV transmission.					
37.	I strictly followed medical instructions on infant feeding practices to help prevent HIV transmission to my baby.					
38.	I promptly reported any issues with my prescribed preventive practices to my healthcare provider for additional guidance.					

Section F: Factors influencing Mother-to-Child Transmission Prevention Practices

Kindly indicate your agreement to the questions below by placing a tick ✓ in the appropriate box.

S/N	Item	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
39.	My partner supports me in attending antenatal care visits.					
40.	My partner participates in discussions about HIV/AIDS prevention during my pregnancy.					
41.	My partner accompanies me to health education sessions on HIV/AIDS.					
42.	I feel supported by my partner in making healthcare decisions related to pregnancy.					

43.	My partner encourages me to follow MTCT prevention practices.					
44.	My partner's involvement has a positive impact on my adherence to MTCT prevention practices.					
45.	I have experienced discrimination due to my HIV status when accessing healthcare services.					
46.	I feel uncomfortable disclosing my HIV status due to fear of stigma.					
47.	Others view of me has prevented me from attending antenatal care or HIV counselling sessions.					
48.	I worry that my					

	community may judge me if they find out I am accessing MTCT prevention services.					
49.	I avoid certain healthcare facilities to prevent being stigmatized for my HIV status.					
50.	Stigma reduces my willingness to seek support from healthcare providers.					
51.	HIV/AIDS can be caused by spiritual attacks or curses.					
52.	Witchcraft or juju is responsible for the spread of HIV/AIDS.					
53.	Sharing food or drinks with someone who has					

	HIV/AIDS can transmit the virus.					
54.	Children born to parents with HIV/AIDS will always have the virus.					
55.	You can get HIV/AIDS by hugging or shaking hands with an infected person.					
56.	HIV/AIDS only affects people who engage in immoral sexual behaviour.					
57.	Married couples are safe from contracting HIV/AIDS if they stay faithful.					
58.	Traditional healers are more effective than hospitals in treating HIV/AIDS.					

59.	Using herbal remedies can completely eliminate the HIV virus from the body.					
60	HIV/AIDS is a punishment for sins or bad behaviour.					

Thank you for participating in this survey. Your responses will contribute to a better understanding of the factors influencing the prevention of mother-to-child transmission of HIV/AIDS and will help improve healthcare services

Appendix III

RELIABILITY

```
/VARIABLES=SB8 SB9 SB10 SB11 SB12 SB13 SB14 SB15 SB16 SB17  
/SCALE('Knowledge of Mother-to-Child Transmission Prevention Practices') ALL  
/MODEL=ALPHA  
/STATISTICS=DESCRIPTIVE SCALE  
/SUMMARY=TOTAL.
```

Reliability

Scale: Knowledge of Mother-to-Child Transmission Prevention Practices

Case Processing Summary			
		N	%
Cases	Valid	31	88.6
	Excluded ^a	4	11.4
	Total	35	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics	
Cronbach's Alpha	N of Items
.751	10

Item Statistics			
	Mean	Std. Deviation	N
SB8	1.5161	.81121	31
SB9	1.3226	.47519	31
SB10	1.5484	.80989	31
SB11	1.7742	.71692	31
SB12	2.4516	1.26065	31
SB13	1.4516	.67521	31
SB14	2.2258	1.02338	31
SB15	1.7419	.63075	31
SB16	1.9032	.65089	31
SB17	1.8065	.47745	31

Item-Total Statistics				
	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
SB8	16.2258	15.514	.463	.723
SB9	16.4194	16.985	.490	.730
SB10	16.1935	16.428	.312	.746
SB11	15.9677	14.632	.727	.688
SB12	15.2903	14.746	.289	.774
SB13	16.2903	16.080	.479	.723
SB14	15.5161	15.458	.326	.750
SB15	16.0000	16.867	.360	.738
SB16	15.8387	16.273	.464	.726
SB17	15.9355	16.262	.686	.712

Scale Statistics			
Mean	Variance	Std. Deviation	N of Items
17.7419	19.131	4.37392	10

RELIABILITY

/VARIABLES=SC18 SC19 SC20 SC21 SC22 SC23 SC24

/SCALE('Attitude Towards Mother-to-Child Transmission Prevention Practices')

ALL

/MODEL=ALPHA

/STATISTICS=DESCRIPTIVE SCALE

/SUMMARY=TOTAL.

Reliability

Scale: Attitude Towards Mother-to-Child Transmission Prevention Practices

Case Processing Summary

		N	%
Cases	Valid	35	100.0
	Excluded ^a	0	.0
	Total	35	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.824	7

Item Statistics

	Mean	Std. Deviation	N
SC18	1.2571	.44344	35

SC19	1.5429	.50543	35
SC20	1.3714	.49024	35
SC21	1.3429	.63906	35
SC22	1.4571	.81684	35
SC23	1.7143	.66737	35
SC24	1.4000	.49705	35

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
SC18	8.8286	6.499	.743	.782
SC19	8.5429	7.138	.363	.829
SC20	8.7143	6.210	.788	.771
SC21	8.7429	5.667	.756	.765
SC22	8.6286	5.534	.565	.811
SC23	8.3714	7.064	.244	.858
SC24	8.6857	6.222	.769	.773

Scale Statistics

Mean	Variance	Std. Deviation	N of Items
10.0857	8.375	2.89392	7

RELIABILITY

/VARIABLES=SD25 SD26 SD27 SD28 SD29

/SCALE('Perception of Mother-to-Child Transmission Prevention Practices') ALL

/MODEL=ALPHA

/STATISTICS=DESCRIPTIVE SCALE

/SUMMARY=TOTAL.

Reliability

Scale: Perception of Mother-to-Child Transmission Prevention Practices

Case Processing Summary

		N	%
Cases	Valid	35	100.0
	Excluded ^a	0	.0
	Total	35	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.805	5

Item Statistics

	Mean	Std. Deviation	N
SD25	1.2571	.44344	35
SD26	1.3143	.47101	35
SD27	1.3429	.53922	35
SD28	1.6571	.48159	35
SD29	1.6000	.55307	35

Item-Total Statistics

Scale Mean if Deleted	Scale Variance if Deleted	Corrected Total Variance	Cronbach's Alpha if Deleted
-----------------------	---------------------------	--------------------------	-----------------------------

	Item Deleted	Variance if Item Deleted	Item-Total Correlation	Alpha if Item Deleted
SD25	5.9143	2.316	.731	.729
SD26	5.8571	2.420	.585	.769
SD27	5.8286	2.264	.582	.770
SD28	5.5143	2.434	.555	.777
SD29	5.5714	2.311	.525	.790

Scale Statistics			
Mean	Variance	Std. Deviation	N of Items
7.1714	3.499	1.87060	5

RELIABILITY

/VARIABLES=SE30 SE31 SE32 SE33 SE34 SE35 SE36 SE37 SE38 SE39
 /SCALE('Mother-to-child Transmission Prevention Practices Scale') ALL
 /MODEL=ALPHA
 /STATISTICS=DESCRIPTIVE SCALE
 /SUMMARY=TOTAL.

Reliability

Scale: Mother-to-child Transmission Prevention Practices Scale

Case Processing Summary

		N	%
Cases	Valid	35	100.0
	Excluded ^a	0	.0
	Total	35	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.930	10

Item Statistics

	Mean	Std. Deviation	N
SE30	1.4286	.55761	35
SE31	1.7714	.59832	35
SE32	1.3714	.54695	35
SE33	1.4000	.55307	35
SE34	1.5143	.61220	35
SE35	1.5429	.61083	35
SE36	1.7714	.68966	35
SE37	1.4857	.61220	35
SE38	1.4571	.65722	35
SE39	1.4571	.65722	35

Item-Total Statistics

Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
----------------------------	--------------------------------	----------------------------------	----------------------------------

SE30	13.7714	18.711	.810	.919
SE31	13.4286	20.723	.339	.942
SE32	13.8286	19.323	.688	.925
SE33	13.8000	19.106	.728	.923
SE34	13.6857	18.339	.804	.919
SE35	13.6571	18.291	.816	.918
SE36	13.4286	19.193	.540	.934
SE37	13.7143	18.210	.832	.917
SE38	13.7429	17.608	.886	.914
SE39	13.7429	17.667	.874	.915

Scale Statistics			
Mean	Variance	Std. Deviation	N of Items
15.2000	22.929	4.78847	10

RELIABILITY

/VARIABLES=SF40 SF41 SF42 SF43 SF44 SF45
 /SCALE("Partner's Involvement") ALL
 /MODEL=ALPHA
 /STATISTICS=DESCRIPTIVE SCALE
 /SUMMARY=TOTAL.

Reliability

Scale: Partner's Involvement

Case Processing Summary

		N	%
Cases	Valid	35	100.0
	Excluded ^a	0	.0
	Total	35	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.975	6

Item Statistics

	Mean	Std. Deviation	N
SF40	2.2000	1.07922	35
SF41	1.9429	1.18676	35
SF42	2.3429	1.08310	35
SF43	2.0571	1.21129	35
SF44	2.0857	1.24550	35
SF45	1.8571	1.16677	35

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
SF40	10.2857	31.387	.900	.973

SF41	10.5429	29.785	.945	.968
SF42	10.1429	31.479	.887	.974
SF43	10.4286	29.487	.949	.968
SF44	10.4000	29.306	.933	.970
SF45	10.6286	30.417	.906	.972

Scale Statistics			
Mean	Variance	Std. Deviation	N of Items
12.4857	43.434	6.59042	6

RELIABILITY

/VARIABLES=SG46 SG47 SG48 SG49 SG50 SG51
 /SCALE('Stigmatisation') ALL
 /MODEL=ALPHA
 /STATISTICS=DESCRIPTIVE SCALE
 /SUMMARY=TOTAL.

Reliability

Scale: Stigmatisation

Case Processing Summary			
		N	%
Cases	Valid	34	97.1
	Excluded ^a	1	2.9
	Total	35	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.929	6

Item Statistics

	Mean	Std. Deviation	N
SG46	2.4412	1.25990	34
SG47	1.8824	.64030	34
SG48	2.3824	1.27955	34
SG49	1.8235	.62622	34
SG50	2.3824	1.23128	34
SG51	2.4412	1.18555	34

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
SG46	10.9118	19.840	.828	.912
SG47	11.4706	26.802	.529	.945
SG48	10.9706	18.757	.932	.896
SG49	11.5294	25.954	.686	.934
SG50	10.9706	19.060	.944	.894
SG51	10.9118	19.416	.947	.893

Scale Statistics

Mean	Variance	Std. Deviation	N of Items
13.3529	30.720	5.54258	6

RELIABILITY

/VARIABLES=SH1 SH2 SH3 SH4 SH5 SH6 SH7 SH8 SH9 SH10

/SCALE('Cultural Beliefs') ALL

/MODEL=ALPHA

/STATISTICS=DESCRIPTIVE SCALE

/SUMMARY=TOTAL.

Reliability

Scale: Cultural Beliefs

Case Processing Summary

		N	%
Cases	Valid	31	88.6
	Excluded ^a	4	11.4
	Total	35	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.908	10

Item Statistics

Mean	Std.	N
------	------	---

		Deviation	
SH1	3.2581	1.54850	31
SH2	3.5161	1.38735	31
SH3	3.7419	1.34084	31
SH4	3.6129	1.47597	31
SH5	3.7419	1.36547	31
SH6	2.8387	1.48541	31
SH7	2.2903	1.50982	31
SH8	3.6774	1.37567	31
SH9	3.7742	1.28348	31
SH10	3.4516	1.67010	31

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
SH1	30.6452	91.837	.696	.897
SH2	30.3871	93.778	.714	.896
SH3	30.1613	95.540	.670	.899
SH4	30.2903	95.013	.615	.902
SH5	30.1613	91.673	.817	.890
SH6	31.0645	99.062	.461	.912
SH7	31.6129	98.178	.482	.911
SH8	30.2258	91.581	.813	.891
SH9	30.1290	92.983	.819	.891
SH10	30.4516	90.456	.681	.899

Scale Statistics

Mean	Variance	Std. Deviation	N of Items
33.9032	114.890	10.71869	10

Lead City University Ibadan DO NOT COPY

Appendix IV



Lead City University (LCU)

Motto: Knowledge for Self-reliance

Lagos - Ibadan Expressway, Toll Gate Area, Ibadan, Oyo State, Nigeria
Email: lcu.hrec@lcu.edu.ng



University Research Ethics Committee

**PROJECT TITLE: FACTORS INFLUENCING PREVENTION PRACTICES OF
MOTHER-TO-CHILD TRANSMISSION OF HIV/AIDS AMONG
WOMEN OF REPRODUCTIVE AGE IN ILORIN, KWARA
STATE, NIGERIA**

PROJECT NUMBER: LCU-REC/25/003
APPROVAL DATE: 24/02/2025
EXPIRY DATE: 24/02/2026

APPROVAL LETTER

The above-named proposal has been adequately reviewed; the protocol and safety guidelines satisfy the conditions of LCU-REC policies regarding experiments that use human subjects. Therefore, the study under its reviewed state is hereby approved by the LCU-Research Ethics Committee.

Prof. Olusola Ladokun

Name of LCU-REC Chairman

Dr. Folahanmi Akinsolu

Name of LCU-REC Secretary



This approval is given with the investigator's Declaration as stated below;

By signing below, I agree/certify that:

1. I have reviewed this protocol submission in its entirety and that I am fully cognizant of, and in agreement with all submitted statements.
2. I will conduct this research study in strict accordance with all submitted statements except where a change may be necessary to eliminate apparent immediate hazard to a given research subject.
 - I will notify the LCU-REC promptly of any change in research procedures necessitated in the interest of the safety of a given research subject.

- I will request and obtain LCU-REC approval of any proposed modification to the research protocol or informed consent document(s) prior to implementing such modifications.
3. I will ensure that all co-investigator and other personnel assisting in the conduct of this research study have been provided a copy of the entire current version of the research protocol and are fully informed of the current (a) study procedures (including procedure modifications); (b) informed consent requirements and process; (c) potential risks associated with the study participation and the steps required to be taken to prevent or minimize these potential risks; (d) adverse events reporting requirements; (e) data and record-keeping; and (f) the current REC approval status of the research study.
 4. I will respond promptly to all requests for information or materials solicited by the REC or REC Office.
 5. I will submit the research study in a timely manner for the REC renewal approval.
 6. I will not enroll any individual into this research study until such time I obtain his/her written informed consent, or if applicable, the written informed consent of his/her authorized representative (i.e. unless the REC has granted a waiver of the requirement to obtain informed consent).
 7. I will employ and oversee an informed consent process that ensures that potential research subjects understand fully the purpose of the research study, the nature of the research procedures they are being asked to undergo, the potential risks of these research procedures, and their rights as a research study volunteer.
 8. I will ensure that the research subjects are kept fully informed of any new information that may affect their willingness to continue to participate in the research study.
 9. I will maintain adequate, current, and accurate records of research data, outcomes, and adverse events to permit an ongoing assessment of the risks/benefits ratio of research study participation.
 10. I am cognizant of, and will comply with, current federal regulations and REC requirements governing human subject research including adverse event reporting requirements.
 11. I will make a reasonable effort to ensure that subjects who have suffered adverse event associated with research participation receive adequate care to correct or alleviate the consequences of the adverse event in the extent possible.
 12. I will ensure that the conduct of this research study adheres to Good Clinical Practice guidelines.

Ms YUSUF JUMMAI

Principal Investigator's Name

Sumai 24/02/2025
Principal Investigator's Signature and Date

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**MINISTRY OF HEALTH
KWARA STATE GOVERNMENT**

MOH/KS/EU/777/10026

9TH January, 2025.

**Re: FACTORS INFLUENCING PREVENTION PRACTICES OF MOTHER-TO-CHILD
TRANSMISSION OF HUMAN IMMUNODEFICIENCY VIRUS (HIV) SERVICES
AMONG WOMEN OF REPRODUCTIVE AGE IN ILORIN, KWARA STATE NIGERIA.**

Ministry of Health Ethical Research Committee (ERC) Assigned number:
ERC/MOH/2025/01/373

Name of Principal Investigator: **JUMMAI MOHAMMED YUSUF**

Address of Investigator: Faculty of Basic Medical and Applied Science,
Department of Public Health,
Lead City University,
Ibadan, Oyo State, Nigeria.
Telephone: 07065086178

Date of Approval of Application: **09/01/2025**

NOTICE OF APPROVAL TO CARRY OUT RESEARCH

Sequel to your request and the interest of the State Ministry of Health in Health-related research activities to improve the health of the citizens. I am directed to forward to you the approval of the Ministry of Health to carry out the dissertation as itemized in your protocol. The approval I.D is **ERC/MOH/2025/01/373**

2. You are mandated to acknowledge the State Ministry of Health by your presentations/publications and deposition of the final copy of the research findings/publications.
3. Please kindly note that the Ethical Review Committee reserves the right to conduct monitoring/oversight to your research site without prior notification.
4. The Approval dates from 09/01/2025 to 08/01/2028, if there is delay in starting the research, please inform the MOH/ERC so that the date of the approval can be adjusted accordingly.
5. Best wishes in your research project.


Dr Lambe Kudirat Funmi
Chairman Ethical Review Committee
For: Honourable Commissioner

P.M.B 1386, Fate Road, Ilorin, Kwara State
Telegram: GOV. ILORIN

www.kwarastate.gov.ng



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Lead City University

DEPARTMENT OF PUBLIC HEALTH

Motto: Redefining Health



16TH January 2025

TO WHOM IT MAY CONCERN

Re: JUMMAI MOHAMMED YUSUF

LETTER OF INTRODUCTION AND PERMISSION TO COLLECT DATA

Dear Sir/Ma,

The above-named student with matric number LCU/PG/003932 is a postgraduate student in the above-named Department, Faculty of Basic Medical Sciences.

Kindly render any necessary assistance in ensuring the smooth progress towards the completion of her programme.

Thank you.

Yours sincerely,

Dr. (Mrs.) Oluwakemi I. Adeniji

Research Supervisor

*Lagos-Ibadan Express way, Toll Gate Area.
P.O. Box 30678, Secretariat, Ibadan, Oyo State, Nigeria
publichealth@lcu.edu.ng*



Lead City University
DEPARTMENT OF PUBLIC HEALTH
Motto: Redefining Health



22nd May 2025

TO WHOM IT MAY CONCERN

Re: JUMMAI MOHAMMED YUSUF

APPROVAL FOR POST FIELD PRESENTATION

Dear Sir/Ma,

The above-named student with matric number LCU/PG/003932 is a postgraduate student in the above-named Department, Faculty of Basic Medical Sciences.

An approval is hereby given to him to proceed with her post field presentation.

Thank you.

Yours sincerely,

*Lagos-Ibadan Express way, Toll Gate Area.
P.O. Box 30678, Secretariat, Ibadan, Oyo State, Nigeria
publichealth@lcu.edu.ng*

Appendix V

Bio Data

A. Personal Data

Full name: Jummai Mohammed, YUSUF

E-mail Address: Jummaimdyusuf1@gmail.com

Address: SE Sabon Gari, Minna, Niger State.

Phone no: +234 706 5086 178

Date of Birth: 01/07/1998

Place of Birth: Niger State

Nationality: Nigeria

Marital Status: Single

Name of Next of Kin: Mr. Mohammed Yusuf

Address of Next of Kin: SE Sabon Gari, Minna, Niger State.

B. Educational Background

School Attended	Date	Qualifications
• Federal Staff Nursery and Primary Certificate	2004- 2009	School Leaving

School, Minna, Niger State

- Federal Government Staff College 2009-2012 Junior SSCE

School, Minna, Niger State

- First Class International School, 2012-2014 Senior SSCE

Gwada, Niger State

- Al-Hikmah University, Ilorin, 2016-2017 Diploma in
Microbiology

Kwara State

- Al-Hikmah University, Ilorin, 2017-2020 B.Sc. Microbiology
Kwara State (Second Class Honors)

- Lead City University, Ibadan, Nigeria In View Master of Public Health
(MPH)

C. Work Experience

- National Youth Corps Service

Ladoke Akintola University Teaching Hospital, Ogbomoso 2021-2022

- Assisted with laboratory diagnostics and sample processing
- Supported infection prevention and control protocols
- Maintained accurate patient and lab records

- Collaborated with healthcare team to improve patient outcomes

- Industrial Training Program

Harmony Diagnostic Centre, Ilorin

2018

- Gained hands-on experience

- Industrial Training Program

Ibrahim Babangida Specialist Hospital, Minna

2019

- Participated in clinical laboratory operations and patient sample management

D. SKILLS

- Microbiological Techniques (culture, staining, biochemical testing)
- Infection Prevention and Control
- Data Collection and Reporting
- Public Health Education and Communication
- Proficient in Microsoft Office (Word, Excel, PowerPoint)
- Strong interpersonal and problem-solving abilities

The University Compliance Certification

This is to certify that this thesis by **Jummai Mohammed, YUSUF**, with the Matriculation Number **LCU/PG/003932** in the Department of Public Health, Faculty of Applied and Health Sciences, Lead City University, Ibadan is in full compliance with the approved University format.

Signature

Date