





Factors Influencing the PMTCT Services Uptake among HIV Positive Women Attending Antenatal and Postnatal Clinics in Adeoyo Maternity Teaching Hospital, Ibadan, Oyo State, Nigeria

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Abstract	Article History
<p>Background: Mother-to-child transmission (MTCT) of HIV can occur during pregnancy, labour, delivery, or breastfeeding in the absence of preventive interventions. The prevention of mother-to-child transmission (PMTCT) program is a critical strategy to eliminate pediatric HIV infection. Targeting HIV-positive pregnant and postnatal women attending antenatal and postnatal clinics provides an opportunity for implementing evidence-based PMTCT interventions. This study assessed the factors influencing the PMTCT services uptake among HIV positive women attending antenatal and postnatal clinics in Adeoyo maternity teaching hospital, Ibadan, Nigeria.</p> <p>Material and Methods: A facility-based descriptive cross-sectional study was conducted among 84 HIV-positive pregnant and postnatal women. Respondents were selected using a purposive sampling technique. Data were collected through a semi-structured questionnaire and analyzed using the Statistical Package for the Social Sciences (SPSS), version 26, employing descriptive statistics, including frequency tables and a four-point Likert rating scale.</p> <p>Results: The study revealed that 76% of respondents had attended a PMTCT program, 61% initiated antenatal care (ANC) early, and 71% reported a minimum of four ANC visits. Furthermore, 85% were tested for HIV during pregnancy, 65% were aware of their partner's HIV status, and 60% disclosed their HIV result to their partners. However, 58% indicated that their partners did not attend PMTCT services. In terms of clinical care, 87% underwent a CD4 test, of which 92% received their results. Facilitating factors influencing PMTCT uptake included community group support, pre- and post-test counseling, male partner involvement, and quality of health services. Conversely, stigma and discrimination, distance to the health facility, and illiteracy were reported as major hindrances.</p> <p>Conclusion/Recommendations: The findings indicate a moderate to high level of PMTCT service uptake among the study population. However, gaps remain in male partner participation and disclosure of HIV status. To strengthen PMTCT uptake, interventions should focus on enhancing male partner involvement, supporting HIV status disclosure, and addressing barriers such as stigma, discrimination, and limited health literacy. Strengthening community-based support systems and improving service delivery quality will further contribute to the elimination of MTCT in Nigeria.</p> <p>Keywords: Prevention of mother-to-child transmission, antenatal care, Nigeria, Barriers, Male partner involvement, antiretroviral therapy, Sub-Saharan Africa, Uptake, HIV Positive Women, .</p>	<p>Received: 03 Mar 2026 Accepted: 29 Mar 2026 Published: 04 Apr 2026</p>  <p>Scan QR Code to view</p>
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Introduction

Women living with Human Immunodeficiency Virus (HIV) Infection can give birth to Infants infected with HIV, this is known as Mother-to-Child Transmission (MTCT), contributing a major proportion to new HIV infections among children. HIV is a retrovirus that attacks the body's immune system. In 2023, an estimated 1.3 million new cases and

630,000 deaths from AIDS-related illnesses were reported worldwide.¹ Low-and middle-income countries (LMIC) face significantly greater burdens from HIV, due to limited access to healthcare, lack of awareness and education, socioeconomic disparities, and cultural factors.² Every week, 4000 adolescent girls and young women of reproductive age (15-24 years) became infected with HIV globally and the prevalence rate

remained high in Sub-Saharan Africa with an estimation of 3100 infections among this group in the year 2023.³ This age group also contributes to the larger incidence of vertical transmission of HIV from mother to child during pregnancy, labour, delivery and breastfeeding.

Human immunodeficiency virus continues to replicate in the body and advance to acquired immunodeficiency syndrome (AIDS) when untreated. Antiretroviral therapy (ART) is recommended to all person living with HIV as it reduces both morbidity and mortality; and prevents the transmission of HIV to others.⁴ A systematic review and meta-analysis on barriers and facilitators of interventions aimed at improving antiretroviral therapy (ART) adherence in sub-Saharan Africa identified seven key influencing domains. These include patient-related factors, health system-related challenges, medication-related issues, stigma, mental health conditions, as well as socioeconomic and sociocultural factors.⁵ A research concluded that engaging pregnant women's support system such as male partners, peers, and community Health Workers (CHWS), improving strategies that address private sector and community awareness about freely available HIV prevention and care programs may enable optimal prevention of Mother -to-Child Transmission utilization.⁶

A systematic review of qualitative findings on barriers to uptake HIV testing among pregnant women attending antenatal clinics in low -and - middle-income showed that poor knowledge, fear of HIV test results, HIV related stigma and social exclusion negatively influenced pregnant women's decision to be tested for HIV and also negatively impacted the effectiveness of PMTCT HIV programs.⁷ This was corroborated by a study on prenatal HIV test uptake and its associated factors for PMTCT of HIV among residents with diverse educational level in East Africa which showed that residents living in rural communities and traveling long distance to the health facility were associated with non-use of prenatal HIV test services in East African countries.⁸ High maternal education level is however associated with improved prenatal HIV test service uptake, enhanced maternal exposure to the media, and increased awareness about MTCT of HIV.

Nigeria, the most populous country in Africa, contributes approximately one-third of global cases of mother-to-child transmission (MTCT) of HIV.⁹ Although notable progress has been made in reducing the overall prevalence of HIV, prevention of mother-to-child transmission (PMTCT) coverage remains below 50%, resulting in an estimated 22,000 new paediatric infections annually. According to data from the National Agency for the Control of AIDS, the country records the highest number of new HIV infections among children globally, with approximately one in every seven children born with HIV occurring in Nigeria.⁹

Key barriers to PMTCT services among HIV-Positive pregnant women in Nigeria include limited male partner involvement, unfavourable attitudes of healthcare workers, fear of stigma and discrimination, as well as discomfort associated with the hospital environment, among other contributing factors.¹⁰

In 2021, The United Nations Children's Fund (UNICEF) recorded that in Nigeria, 20,695 children (0-9 years) were

newly infected with HIV and about 30 percent of children died due to AIDS-related deaths in 2020. Nigeria has the highest number of children and adolescent aged (0-19years) living with HIV in west and central Africa with an estimate of 190,000, and 14,998 children and adolescent dying from AIDS-related causes respectively.¹¹

Descriptive research on knowledge and utilization of PMTCT services among women accessing antenatal care in Abakaliki, Nigeria showed there was good knowledge of PMTCT among the respondents but utilization of the services was suboptimal.¹² Training and mentoring of health care workers in facilities on HIV testing programmes is important to improve uptake of PMTCT services and allay fears of stigmatization among the pregnant women.

A study carried out on the effect of the antenatal HIV testing Scale up community intervention in Osun state, Southwest, Nigeria revealed that antenatal HIV testing scale-up community intervention is effective in increasing the utilization of antenatal HIV testing by increasing awareness and attitude to HIV testing in the community. Thus, efforts to scale it up in Nigeria should be accelerated to improve PMTCT services and reduce Mother-to -Child Transmission of HIV.¹³ Despite the importance of prevention of mother -to-child transmission service in preventing HIV transmission from mother -to-child, the researchers however found limited published researches addressing the uptake of PMTCT among HIV positive women in South western Nigeria. Assessing the factors influencing the prevention of Mother -to-Child Transmission (PMTCT) services uptake would in no doubt help to identify the gaps and create strategies towards improved accessibility and uptake of these services among HIV positive women. This study therefore assessed the factors influencing the PMTCT services uptake among HIV positive women attending antenatal and postnatal clinics in Adeoyo maternity teaching hospital, Ibadan, Oyo State, Nigeria.

Materials and Methods

Research Design

This study utilized a descriptive cross-sectional research design to assess the Factors Influencing the Prevention of Mother -to-Child Transmission (PMTCT) Services uptake among HIV Positive women attending antenatal and post-natal clinics in Adeoyo Maternity Teaching Hospital, Ibadan, Oyo State.

Setting of the Research

This study was conducted in Adeoyo Maternity Teaching Hospital, Ibadan south west local government, Ibadan, Oyo State. The city of Ibadan is the third largest city in Nigeria but the largest in terms of sheer landmass. The primary inhabitants of the city are the Yoruba-speaking people. Adeoyo Maternity Teaching Hospital is a secondary health facility under the administration of the Oyo state Hospital Management Board. The hospital was established in 1928. It was formerly used as a college hospital by the University of Ibadan between 1948 and 1954 after being upgraded with an additional fifty beds, laboratory, X-ray annex, medical lecture rooms, and mortuary. The hospital provides maternal and child healthcare services to people in Ibadan and the surrounding area. It is made up of an antenatal clinic, labor ward, antenatal ward, gynecological

ward, lying in ward, children's ward, immunization clinic, post-caesarian section ward, gynecological clinic and family planning clinic.

Target Population

The participants for this study were HIV-positive women attending antenatal and postnatal clinics in Adeoyo Maternity Teaching Hospital, Ibadan, Oyo state.

Sampling Technique and Sample Size

A purposive sampling technique was employed to select Adeoyo Maternity Teaching Hospital as the study setting due to its status as a designated HIV referral center in Oyo State, Nigeria. This selection ensured that the sample included HIV-positive pregnant and postnatal women who are most relevant to the study's objectives.

The sample size was determined using Taro Yamane's statistical formula, resulting in a final sample of 84 participants. This formula is widely used for determining appropriate sample sizes in studies with finite populations, ensuring the representativeness and statistical validity of the sample.

Instrument for Data Collection

To gather valid and reliable data, a self-developed structured questionnaire was utilized as the primary instrument for this study. The questionnaire was designed to assess factors influencing the uptake of Prevention of Mother-to-Child Transmission (PMTCT) services among HIV-positive pregnant and postnatal women.

The instrument incorporated a four-point Likert scale to measure respondents' agreement with various statements: Strongly Agree (SA), Agree (A), Disagree (D), and Strongly Disagree (SD).

The questionnaire was divided into the following sections:

Section A: Socio-demographic characteristics of the respondents.

Section B: Uptake of PMTCT services among participants.

Section C: Facilitating factors influencing the uptake of PMTCT services.

Section D: Hindering factors affecting the uptake of PMTCT services.

This structured approach was designed to ensure comprehensive data collection on the various dimensions of PMTCT service utilization, providing a robust basis for analysis.

Validity and Reliability of the Instrument

The questionnaire's validity was established by aligning its content with the study objectives and research questions, ensuring it addressed the purpose of the research.

To determine reliability, the instrument was pretested in a pilot study involving 8 HIV-positive women, representing 10% of the study population. These participants were not included in the main study. Data collected during the pilot test were analyzed, and the questionnaire yielded a reliability coefficient of 0.72, indicating that it was consistent and suitable for use in the study.

Method of Data Analysis

The data collected were analyzed using the Statistical Package for the Social Sciences (SPSS), version 26. Frequency tables

and the arithmetic mean method were used. Descriptive data analysis was employed to summarize the findings, which were presented through text, proportions, percentages, figures, and tables. This approach provided insights into the uptake of PMTCT services among pregnant and postnatal women, guided by the research questions formulated for the study.

In addition, the chi-square statistical method was applied to test the hypothesis that there is no significant association between the level of education and the uptake of PMTCT services among HIV-positive women. This test helped examine the relationship between these variables and contributed to the overall interpretation of the study findings.

Ethical Consideration

An ethical approval with the reference number MHREC/OYOSHRIEC/10/11/22 was obtained from Oyo State Ministry of Health Research Ethics Review Committee. The research was conducted in alignment with the ethical principles outlined in the Helsinki Declaration, ensuring adherence to established guidelines for research involving human participants.

Method of Data Collection

Following approval, the researchers were introduced to the participants by the matron in charge of the HIV Clinic, Adeoyo Maternity Teaching Hospital.

Prior to data collection, verbal informed consent was obtained from all participants, ensuring that they understood the purpose of the study, the voluntary nature of participation, and the confidentiality of their responses. All ethical guidelines were strictly adhered to during the data collection process.

The structured questionnaire was administered through face-to-face interviews over a period of three weeks, allowing for the collection of data directly from the respondents in a controlled and consistent manner.

Results

The frequency and percentage table 1 shows the distribution of the respondents' socio-demographic information of age, marital status, religion, educational status, occupational status, number of Children alive, number of infected children and husband's occupation. The table revealed that a sizeable number of the respondents 24(29%) were within the age range of 30-34 years, 23(27%) were 40 years and above, 16(19%) were within 25-29 years of age while minority 7(8%) were within 20-24 years of age. The table also shows that 71(85%) of the respondents were married while 8(10%) were divorced and 4(4%) and 1(1%) were widowed and single respectively. 46(55%) were Christians and 38(45%) practiced Islamic religion while none practiced traditional religion. 7(8%) of the respondents had no formal education, 2(2%) and 9(11%) have completed primary and tertiary education respectively and majority 66(79%) were secondary school leavers. An average number of the respondents (42) were Self-employed, 37(44%) were traders, and 5(6%) had other occupations. 2(2%) of the respondents had no child, 38(45%) had 1-2 children, 36(43%) had 3-4 children while the remaining 8(10%) had 5 children and above. Majority of the respondents 71(85%) had no infected children, 10(12%) had 1 child infected, 2(2%) had 2 children infected while 1(1%) was not sure of her child status at the time of data collection.

However, majority of the respondents' husbands are Self-employed 65(77%), 10(12%) of them are employed in one way or the other, 6(7%) are government employees while 3(4%) are farmers. The response rate was 100%.

Table 1: Socio-demographic characteristics of study participants

Subject	Variable	Frequency	Percentage
Age group	20-24	7	8%
	25-29	16	19%
	30-34	24	29%
	35-39	14	17%
	40 and above	23	27%
Marital status	Single	1	1%
	Married	71	85%
	Divorced	8	10%
	Widowed	4	4%
Religion	Islam	38	45%
	Christianity	46	55%
	African traditional religion	0	0%
Educational status	No formal education	7	8%
	Primary education	2	2%
	Secondary education	66	79%
	Tertiary education	9	11%
Occupational status	Self-employed	42	50%
	Trading	37	44%
	Government employee	0	0%
	Others (specify)	5	6%
Number of Children alive	None	2	2%
	1-2	38	45%
	3-4	36	43%
	5 and above	8	10%
Do you have children infected with HIV? If yes, how many?	None	71	85%
	1 only	10	12%
	2	2	2%
	Not sure	1	1%
Husband's occupation	Self-employed	65	77%
	Farmer	3	4%
	Government employee	6	7%
	Other (specify)	10	12%

Table 2 shows significant engagement with PMTCT (Prevention of Mother-to-Child Transmission) services among the participants. A large majority (76%) had previously attended a PMTCT program, and most (61%) made their first antenatal clinic (ANC) visit within the first 1-3 months of pregnancy. Regarding the frequency of ANC visits, 71% attended four or more times, indicating good participation in prenatal care. In terms of HIV testing, over half (51%) had been tested for HIV prior to pregnancy, and a majority (85%) underwent HIV testing during pregnancy. Disclosure of HIV test results to partners was relatively high, with 60% of participants sharing their status with their partners. Furthermore, 65% were aware of their partner's HIV status, although only 42% reported that their partner attended ANC or PMTCT services. Regarding HIV-related care during pregnancy, 87% of participants gave a blood sample for CD4 testing, and 92% received their results. A remarkable 96% of participants reported adhering to their prescribed Antiretroviral drugs (ARVs), and all participants (100%) attended their follow-up visits regularly.

Table 3 reveals that 84(100%) of the respondents under the study accepted that the influence of community support groups can promote the attendance of PMTCT program, 83(99%) accepted that counseling before or after HIV testing is important. Likewise 79(94%) approved that it is important for a male partner to be

involved in the PMTCT program, 83(99%) respondents as well accepted that interactions between health workers and their clients affects the utilization of PMTCT services, 84(100%) responded that the quality of ANC/ PMTCT services may help to facilitate its uptake, 83(99%) responded that minimizing the waiting time at the ANC/ PMTCT health center can help facilitate the attendance of PMTCT program, 73(87%) responded that improving the geographical accessibility of ANC/PMTCT services may help to facilitate its uptake while 84(100%) responded that knowledge and awareness of one's HIV status can facilitate the acceptance and attendance of PMTCT program.

Table 4 reveals several factors hindering attendance at PMTCT services. The majority of participants (90%) agreed that HIV-related stigma and discrimination affect a pregnant woman's decision to enroll. Distance to health facilities was considered a barrier by 77%, while 81% mentioned transportation costs as a hindrance. Low trust in health workers was noted by 74% of participants, and 70% agreed that religious beliefs could affect the acceptance of PMTCT services. Illiteracy was seen as a factor contributing to a lack of understanding of MTCT by 91%. The perception of not being at risk for HIV was cited by 90% as a barrier to HIV testing. Additionally, 82% agreed that non-support from husbands or male partners impacted women's participation in PMTCT programs.

Table 2: Respondents uptake of PMTCT services

Variables	Responses	Frequency	Percentage
Have you attended any PMTCT program before?	Yes	64	76%
	No	20	24%
When was your first ANC visit?	4-9 months	33	39%
	1-3 months	51	61%
How many times did you visit the Antenatal clinic?	1-3 times	24	29%
	4 times and above	60	71%
Did you undergo any HIV test prior to pregnancy?	Yes	43	51%
	No	41	49%
Did you undergo any HIV test/screening during pregnancy?	Yes	71	85%
	No	13	15%
Did you disclose your HIV result to your partner?	Yes	50	60%
	No	34	40%
Are you aware of your partner's HIV status?	Yes	55	65%
	No	29	35%
Did your partner attend any ANC/ PMTCT services?	Yes	35	42%
	No	49	58%
Did you give blood sample to have a CD4 test during pregnancy?	Yes	73	87%
	No	11	13%
Did you get the result of the CD4 test?	Yes	77	92%
	No	7	8%
Do you take your Antiretroviral drug(s) (ARV) as prescribed?	Yes	81	96%
	No	3	4%
Do you attend your follow up visit regularly?	Yes	84	100%
	No	0	0%

Table 3: Facilitating Factors to Attending PMTCT Services

Variables	Strongly Agree	Agree	Strongly Disagree	Disagree
The influence of community support groups can promote the attendance of PMTCT program	66(79%)	18(21%)	0(0%)	0(0%)
Counselling before or after HIV testing is important	68(81%)	15(18%)	1(1%)	0(0%)
It is important for a male partner to be involved in the PMTCT program	58(69%)	21(25%)	4(5%)	1(1%)
Interaction between health workers and their clients affects the utilization of PMTCT services	63(75 %)	20(24%)	0(0%)	1(1%)
The quality of ANC/PMTCT services at the health center is a facilitating factor to attending it	69(82%)	15(18%)	0(0%)	0(0%)
Minimizing the waiting time at the ANC/PMTCT health center can help facilitate the attendance of PMTCT program	61(73%)	22(26%)	0(0%)	1(1%)
Improving the geographical accessibility of ANC/ PMTCT services may help to facilitate its Uptake	49(58%)	24(29%)	0(0%)	11(13%)
Knowledge and awareness of one's HIV status can facilitate the acceptance and attendance of PMTCT program	67(80%)	17(20%)	0(0%)	0(0%)

Table 4: Hindering factors to attending PMTCT services

Variables	Strongly Agree	Agree	Strongly Disagree	Disagree
HIV related stigma and discrimination affect a pregnant woman’s decision to enroll in the PMTCT program	70(83%)	6(7%)	0(0%)	8(10%)
Distance to health facility providing PMTCT services is a barrier to assessing it	31(37%)	34(40%)	4(5%)	15(18%)
Cost of transportation hinders PMTCT services Uptake	47(56%)	21(25%)	3(4%)	13(15%)
Low level of trust in health workers can affect PMTCT compliance	30(36%)	32(38%)	2(2%)	20(24%)
Religious belief can hinder the acceptance and uptake of PMTCT services	22(26%)	37(44%)	3(4%)	22(26%)
Illiteracy can contribute to not understanding MTCT related problems	52(62%)	24(29%)	1(1%)	7(8%)
Barriers to HIV testing during pregnancy may include not perceiving the risk of HIV	49(58%)	27(32%)	3(4%)	5(6%)
Non-support of husbands or male partners and other family members may be critical to women successful participation in PMTCT programs	52(62%)	17(20%)	1(1%)	14(17%)

Table 5 reveals the different educational levels of the respondents (No formal education, Primary, Secondary, and Tertiary education). Each group has a corresponding sample size and outcome. This column shows the number of respondents in each education group. For example, there are 7 women with no formal education, 2 with primary education, 66 with secondary education, and 9 with tertiary education, totaling 84 women. The degrees of freedom (df) in this test is 3, calculated as $df=(r-1)$, where r is the number of education levels (in this case, 4 education levels). This represents the number of independent categories. The calculated Chi-square statistic is 26.2. This value reflects the extent to which the observed data deviate from the expected values under the null hypothesis (i.e., that there is no association between education level and PMTCT uptake). A higher value indicates a stronger deviation. The critical Chi-square value for a 0.05 significance level and 3 degrees of freedom is 7.815. This is the threshold

value beyond which the observed statistic must fall in order to reject the null hypothesis. Since the calculated χ^2 value (26.2) is greater than the critical χ^2 value (7.815), the result is significant. This means that the difference between the groups is unlikely to be due to random chance, indicating a real association between educational level and PMTCT uptake. Based on the significance of the result, the null hypothesis (H_0), which states that there is no significant association between the level of education and the uptake of PMTCT services, is rejected. The test shows that there is a significant association between education level and PMTCT service uptake among HIV-positive women. This corroborates with research carried out on perception and utilization of prevention of Mother-To- Child Transmission of human Immunodeficiency virus (HIV) services among women living with HIV which stated that knowledge level and education level had impact on the utilization of PMTCT services.¹²

Table 5: The summary table of the Chi-square testing the hypothesis.

Education Level	N (Sample Size)	Df (Degrees of Freedom)	χ^2 Calculated	χ^2 Critical (0.05)	Significant	Decision
No Formal Education	7	3	26.2	7.815	Yes	Reject H_0
Primary Education	2					
Secondary Education	66					
Tertiary Education	9					

Discussion of Findings

Socio-demographic information of respondents

Findings from the study revealed that majority of the respondents were within the age range of 30-34 years, Christians, married, secondary school leavers and with 1-2 children at the period of study.

Uptake of PMTCT services

This study highlights a commendable level of engagement with Prevention of Mother-to-Child Transmission (PMTCT) services among the participants. A considerable number of respondents reported attending PMTCT programs, with many initiating antenatal care (ANC) visits during the first trimester

of pregnancy. However, only a substantial proportion had four or more ANC visits, consistent with prior research, which documented a strong uptake of PMTCT services among pregnant women.¹⁴ In contrast, a study from Abakaliki, Nigeria, found that despite having substantial knowledge about PMTCT, many women demonstrated suboptimal utilization of the services.¹² This discrepancy underscores the need to train and mentor healthcare providers on effective HIV testing programs to enhance PMTCT service uptake and mitigate fears of stigma among expectant mothers.

The study also revealed a notable trend of HIV status disclosure, with many participants sharing their status with partners, family members, or friends. This observation is consistent with findings from research conducted in Ethiopia, which reported a high rate of HIV status disclosure to sexual partners. The Ethiopian study also identified a positive correlation between good knowledge of HIV/AIDS prevention and disclosure practices.¹⁵ On the other hand, a study involving South African youth newly diagnosed with HIV indicated low disclosure rates. Reasons for non-disclosure included fear of abandonment, stigma, discrimination, accusations of infidelity, and concerns about partner violence.¹⁶ These findings illustrate the significant role stigma plays in disclosure decisions and HIV treatment adherence.

A considerable number of respondents in this study were aware of their partners' HIV status, though fewer than half reported their partners attending PMTCT clinics. This observation contrasts with findings from a systematic review in Ethiopia, where male partner involvement in PMTCT services was found to be generally low.¹⁷ The review identified factors such as knowledge about PMTCT, perceived responsibility, occupational and educational status, and cultural norms as key determinants of male involvement. Addressing these barriers could significantly enhance male participation in PMTCT services.

Additionally, most respondents reported undergoing CD4 testing during pregnancy and receiving their results. Many participants also adhered to antiretroviral therapy and maintained regular follow-up visits. These findings align with a previous study that observed increased uptake of PMTCT services, including HIV testing, result receipt, and antiretroviral therapy initiation.¹⁸

Facilitating factors to attending PMTCT services

The study highlights community support groups as a significant facilitating factor in attending PMTCT services, as identified by many respondents. This finding aligns with research emphasizing the role of support from families, peers, and healthcare practitioners in motivating attendance at PMTCT services.¹⁹

Counseling before or after HIV testing was also identified as an important facilitator by a significant number of respondents. This observation supports findings from a study conducted in Maseru, Lesotho, which highlighted the critical role of counseling in enhancing awareness of HIV transmission, available HIV testing services (HTS), education on HIV prevention, and the importance of protecting unborn children.²⁰

Male partner involvement emerged as another motivating factor for PMTCT service attendance. This finding is consistent with previous research recommending improved male involvement as a means to enhance maternal-focused ANC service utilization, adherence, and provision of psychological and financial support.²¹

The study further revealed that interaction between health workers and clients, as well as the quality of ANC or PMTCT services provided, significantly influenced the uptake of PMTCT services. These findings are supported by a study from Ethiopia, which emphasized the importance of healthcare providers considering the potential risks of mother-to-child transmission (MTCT) of HIV during clinical health assessments at ANC visits.²²

Respondents also highlighted minimizing waiting times at health centers and improving geographical accessibility to ANC or PMTCT services as key facilitators. These findings align with earlier studies indicating that long waiting times and poor accessibility to services contribute to low PMTCT uptake.²³ Similarly, research on social determinants of health revealed that socioeconomic disadvantages, transportation barriers, low health literacy, poverty, and unemployment are primary challenges to PMTCT program uptake.²⁴ These barriers reflect broader health inequalities driven by social determinants, underscoring the need for targeted interventions.

Finally, the study revealed that knowledge and awareness of one's HIV status significantly influence acceptance and attendance of PMTCT programs. This observation aligns with findings from a study on increasing PMTCT uptake through facility-based health promotion, which identified comprehensive knowledge of MTCT as a critical factor influencing women's decisions to utilize PMTCT services.²³

Hindering factors to attending PMTCT services.

This study identified several barriers to attending PMTCT services, as reported by the majority of respondents. These include stigma and discrimination, distance to health facilities, high transportation costs, low trust in healthcare workers, illiteracy, and lack of support from male partners and other family members. These findings align with a qualitative study that identified stigmatization, insufficient family support, time and financial constraints, distance to health facilities, and negative interactions with service providers as major barriers to PMTCT service uptake.²⁵

Similarly, research conducted in Kano State, Nigeria, highlighted additional challenges, such as fear of stigma associated with accessing HIV-related services, limited male partner involvement, socio-cultural beliefs discouraging hospital deliveries, poor attitudes of healthcare workers, distance and cost barriers, shortages of HIV test kits, and inefficient health service organization.²⁶ The study emphasized the importance of improving antenatal care (ANC) services as an entry point for PMTCT programs. It also recommended fostering a stigma-free environment within communities and encouraging spousal support to help women overcome socio-cultural barriers to accessing healthcare.

These findings suggest that addressing these hindrances requires a multi-faceted approach. Efforts should include strengthening healthcare systems, improving accessibility and affordability of services, fostering positive attitudes among health workers, and implementing community-based interventions to reduce stigma and discrimination. Male partner involvement and family support should also be prioritized to enhance engagement with PMTCT services and ensure better outcomes for both mothers and their children.

Conclusion

PMTCT practice in this study was found to be high. Independent predictors of uptake of PMTCT services in the study area were marital status, disclosure of HIV status, mother's attendance with their partner in PMTCT and good quality of services provided at the health centers. Therefore, recommendation such as good quality service should be maintained in order to sustain high disclosure of HIV status, and efforts should be made to improve male involvement in PMTCT.

Thorough couple counseling and HIV disclosure should be encouraged. In order to mitigate some barriers of distance and cost of transportation, further decentralization of PMTCT services in more remote areas may be needed.

Recommendations

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

1. Confidentiality should be strictly maintained in all interactions with HIV-positive women, and adequate support should be provided to enhance their utilization of PMTCT services.
2. Health care providers should intensify efforts to improve male partner involvement in order to encourage and support HIV-positive women, including couple counselling services.
3. Health care workers should adopt a friendly and respectful communication approach to encourage openness, enabling women to share their challenges and improve coping and uptake of PMTCT services.
4. Voluntary counselling and testing for HIV should be strengthened, and the benefits of PMTCT services should be clearly communicated to clients.
5. Appropriate preventive measures should be ensured for HIV-positive mothers with HIV-negative children to prevent postnatal transmission.
6. PMTCT services should be decentralized and extended to more remote and underserved areas.
7. Pregnant women should be encouraged to initiate antenatal care early in pregnancy.

Further national-level research involving a wider range of health facilities should be conducted to evaluate PMTCT services.

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Conflict of Interest: Authors declare no conflict of interests.

References

1. United Nations Programme on HIV and AIDS. Global HIV & AIDS statistics — Fact sheet UNAIDS <https://www.unaids.org/en/resources/fact-sheet>. Accessed 15th September, 2023.
2. Yang F, Li Z, Subramanian SV, Lu C. Assessment of Knowledge of HIV/AIDS and Association with Socioeconomic Disparities Among Young Women in Low- and Middle-Income Countries, 2003 to 2018. *JAMA Netw Open*. 2021; Jan 4;4(1):e2035000. doi: 10.1001/jamanetworkopen.2020.35000.
3. UNAIDS. *HIV and adolescent girls and young women: Thematic briefing note—2024 global AIDS update: The urgency of now: AIDS at a crossroads* [Internet]. Geneva: UNAIDS; 2024 [cited 2024 May 10]. Available from: https://www.unaids.org/sites/default/files/media_asset/2024-unaids-global-aids-update-adolescent-girls-young-women_en.pdf
4. Kemnic TR, Gulick PG. HIV Antiretroviral Therapy. [Updated 2022 Sep 20]. In: StatPearls [Internet]. Treasure Island (FL): StatPearls Publishing; 2026 Jan-. Available from: <https://www.ncbi.nlm.nih.gov/books/NBK513308/>
5. Buh A, Deonandan R, Gomes J, Krentel A, Oladimeji O, Yaya S. Barriers and facilitators for interventions to improve ART adherence in Sub-Saharan African countries: A systematic review and meta-analysis. *PLoS One*. 2023 Nov 30;18(11):e0295046. doi: 10.1371/journal.pone.0295046.
6. Modi A, Garcia-Alcaraz C, Trivedi S, Kosambiya JK, Wells KJ. “I...Tell Her Not to Take Medicines”: Understanding Engagement in the Prevention of Mother to Child Transmission (PMTCT) Care Continuum through the Socio-Ecological Model. *International Journal of Environmental Research and Public Health*. 2022; 19(20):13530. <https://doi.org/10.3390/ijerph192013530>
7. Razzaq A, Raynes-Greenow C, Alam A. Barriers to uptaking HIV testing among pregnant women attending antenatal clinics in low- and middle-income countries: A systematic review of qualitative findings. *Aust N Z J Obstet Gynaecol*. 2021 Dec;61(6):817-829. doi: 10.1111/ajo.13430. Epub 2021 Oct 5. PMID: 34611883.
8. Astawesegn FH, Stulz V, Agho KE, Mannan H, Conroy E, Ogbon FA. Prenatal HIV Test Uptake and Its Associated Factors for Prevention of Mother to Child Transmission of HIV in East Africa. *Int J Environ Res Public Health*. 2021 May 16;18(10):5289. doi: 10.3390/ijerph18105289. PMID: 34065689; PMCID: PMC8157019.
9. Emorinken M. Assessing Nigeria's efforts in ending mother-to-child transmission of HIV [Internet]. Abuja: National Agency for the Control of AIDS (NACA); 2024 Jun 1 [cited 2026 Apr 4]. Available from: <https://naca.gov.ng/assessing-nigerias-efforts-in-ending-mother-to-child-transmission-of-hiv/>
10. Ogbonna NC, Atayi SG, Inusa B, Afoi B, Dosumu T, Olokooba OE, Odunyemi FT. Knowledge and Barriers to Prevention of Mother-To-Child Transmission Services among HIV-positive Mothers in Abuja, Nigeria: A Mixed-methods Study. *JOURNAL OF NURSING SCIENTISTS AND HEALTH SERVICES TODAY*. 2025 Jun 28;1(1).
11. United Nations Children's Fund. *A child was infected with HIV every two minutes in 2020 – UNICEF* [Internet]. Abuja: UNICEF; 2021 Nov 30 [cited 2026 Apr 4]. Available from: <https://www.unicef.org/nigeria/press-releases/child-was-infected-hiv-every-two-minutes-2020-unicef>
12. Azuogu BN, Ossai EN, Aniwada EC, Madubueze UC, Azuogu VC, Agu AP, Ejikeme BN, Onwe OE, Onah CK, Onwasigwe CN. Knowledge and Utilization of PMTCT Services among Women Accessing Antenatal Care in Private Health Facilities in Abakaliki, Nigeria. PMID: 34499828.
13. Oyebade AO, Bello MA, Familusi IO. Effect of the antenatal HIV testing scale up community intervention in South West, Nigeria: a cross-sectional study. *Pan Afr Med J*. 2021 Oct 12;40:90. doi:

- 10.11604/pamj.2021.40.90.30230. PMID: 34909078; PMCID: PMC8607953
14. Zegeye B, Lemma G, Balcha A, Taderegew MM. Prevention of Mother-to-Child HIV Transmission Service Utilization among Pregnant Women in Northeast Ethiopia: A Cross-Sectional Survey. *Scientifica (Cairo)*. 2020 Nov 4;2020:7584975. doi: 10.1155/2020/7584975.
 15. Tibebe NS, Rade BK, Kebede AA, Kassie BA. Disclosure of HIV status to sexual partner and its associated factors among pregnant women living with HIV attending prenatal care in Amhara Regional state Referral Hospitals, Ethiopia. *PLoS One*. 2023 Jan 17;18(1):e0280045. doi: 10.1371/journal.pone.0280045.
 16. Mengwai K, Madiba S, Modjadji P. Low Disclosure Rates to Sexual Partners and Unsafe Sexual Practices of Youth Recently Diagnosed with HIV; Implications for HIV Prevention Interventions in South Africa. *Healthcare (Basel)*. 2020 Aug 3;8(3):253. doi: 10.3390/healthcare8030253
 17. Melis T, Fikadu Y. Magnitude and determinants of male partner involvement in PMTCT service utilization of pregnant women attending public health facilities of Ethiopia, 2021: a systematic review and meta-analysis. *AIDS Res Ther* 2022, **19**, 8. <https://doi.org/10.1186/s12981-022-00436-5>
 18. Fassinou, LC, Ouoba J, Ngwasiri, C. *et al*. Uptake of prevention of mother-to-child transmission cascade services in Burkina Faso between 2013 and 2020: are we on the right track?. *BMC Women's Health* 2023, **23**, 126. <https://doi.org/10.1186/s12905-023-02227-0>
 19. Buleza Lamucene O, Bernales M, Irrarázabal Vargas L, Ferrer Lagunas L. Perceptions of barriers and facilitators to implement programs for prevention of mother-to-child transmission of HIV-Mozambique. *Rev Esc Enferm USP*. 2022 Feb 11;56:e20210353. doi: 10.1590/1980-220X-REEUSP-2021-0353.
 20. Olorunfemi SO. Evaluating Factors Influencing the High Uptake of HIV Testing and Counselling, among Pregnant Women Attending the Antenatal Clinics in Maseru Lesotho. *Med Life Clin*. 2020; 2(1): 1011.
 21. Ayalew M, Gebrie M, Geja E, Beyene B. Determinants of Male Partner Involvement Towards Prevention of Mother to Child Transmission Service Utilization Among Pregnant Women Who Attended Focused Antenatal Care in Southern Ethiopia. *HIV AIDS (Auckl)*. 2020 Mar 6;12:87-95. doi: 10.2147/HIV.S233786
 22. Yeshaneh A, Abebe H, Tafese FE, Workineh A. Knowledge, attitude, and practice towards prevention of mother-to-child transmission of HIV among antenatal care attendees in Ethiopia, 2020. *PLoS One*. 2023 Feb 24;18(2):e0277178. doi: 10.1371/journal.pone.0277178
 23. x Elsheikh IE, Crutzen R, Adam I, Abdelraheem SI, Van den Borne HW. Increasing Prevention of Mother to Child Transmission (PMTCT) Uptake through Facility-Based Health Promotion: Intervention Development. *Behav Sci (Basel)*. 2023 Apr 6;13(4):317. doi: 10.3390/bs13040317
 24. Kamanzi J, Richter SM, Paul P, Jarvis K. Social Determinants of Health that Influence the Uptake of the PMTCT Program. *Int J Nurs Health Care Res*, 20225: 1362. DOI: <https://doi.org/10.29011/2688-9501.101362>
 25. Ogueji I, Omotoso E. Barriers to PMTCT services uptake among pregnant women living with HIV: A qualitative study. *Journal of HIV/AIDS & Social Services*. 2021, 20(2). 10.1080/15381501.2021.1919276
 26. Dirisu O, Eluwa G, Adams E, Torpey K, Shittu O, Adebajo S. "I think this is the only challenge... the stigma" Stakeholder perceptions about barriers to Antenatal care (ANC) and Prevention of mother-to-child transmission (PMTCT) uptake in Kano state, Nigeria. *PLoS One*. 2020 Apr 27;15(4):e0232028. doi: 10.1371/journal.pone.0232028..