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Knowledge And Practices on PMTCT Of HIV Among Married Men Attending the ART Clinic in Aminu Kano Teaching Hospital, Kano, Nigeria

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Abstract

Background: The Prevention of Mother-to-Child Transmission (PMTCT) of HIV programme was introduced as a comprehensive package of interventions to reduce Mother–to–Child Transmission (MTCT) of HIV. The programme offers an opportunity to identify pregnant women and their partners to prevent the transmission of HIV to the baby. This study is aimed at assessing the knowledge and practices of married HIV positive male partners towards PMTCT. Method: A descriptive cross-sectional study that interviewed 220 HIV positive male partners using an interviewer-administered, pre-testeds questionnaire. Results: The study revealed that 145 respondents (65.9%) were between the age group of 31 and 40 years. More than half 130 (59%) of the respondents were Knows of PMTCT, while 135 (61.4%) of the respondents had good practice of PMTCT. Respondents with formal education were 1.5 times more odds to be Knows of the PMTCT programme than those having informal education [p=0.03, AOR=1.53, 95%CI = (1.08-4.54)]. Similarly, respondents with formal education were 2.5 times more likely to practice the PMTCT programme than those having informal education [p=0.03, AOR=2.53, 95%CI = (1.63-4.54)]. In addition, Male partners who were above 30 years of age were 3 times more likely to participate in PMTCT activities compared to those who were less than 30 years [p=0.02, AOR=2.17, 95%CI = (0.01-4.12)]. Conclusion: While many male partners know about the PMTCT program, significant gaps exist in both their knowledge and active participation. To improve PMTCT uptake and decrease MTCT, it is essential to strengthen male

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involvement through targeted, culturally sensitive interventions.

Keywords: Knowledge, Practice, HIV, PMTCT, Male Partner

1. Introduction

Vertical transmission of the Human Immunodeficiency Virus (HIV) from HIV positive pregnant women to their unborn babies during pregnancy, labour, and delivery, or through breastfeeding, is the most common mode of transmission of the HIV infection to children [1].

According to the Joint United Nations Programme on HIV/AIDS (UNAIDS), approximately 38.0 [31.6 – 44.5] million people worldwide were living with HIV/AIDS in 2019. Of this number, 1.7 million were children (<15 years old), with the majority (71%) residing in sub-Saharan Africa (SSA).

The Prevention of Mother-to-Child Transmission (PMTCT) program was introduced as a comprehensive package of interventions to reduce mother–to–child transmission (MTCT) of HIV. PMTCT program consists of a range of interventions, including improved antenatal services, opt-out HIV counselling and testing for pregnant women, antiretroviral drug prophylaxis for HIV positive pregnant women and newborns, referral to support groups, and counselling on options for safer infant feeding practices [2].

The prevention of mother-to-child transmission of HIV (PMTCT) program offers an opportunity to capture pregnant women and their partners to prevent the transmission of HIV to the baby. [3] It is estimated that in the absence of any intervention to prevent mother-to-child transmission (MTCT), the rate of HIV transmission from mothers to their children ranges from 15% to 45%. This rate can be reduced to levels below 5% with effective interventions [4].

Male partners play a significant role not only in women's risk of acquiring HIV but also in terms of their utilization of the PMTCT program: testing for HIV, returning for the test result, use of condoms, receiving antiretroviral medications, and following up on the infant feeding advice. Thus, male involvement in the context of PMTCT has evolved from seeking male partner support for HIV-infected pregnant and breastfeeding women to the comprehensive engagement of men in interventions that prevent HIV-uninfected female partners from acquiring HIV, reduce unintended pregnancies, and improve care, treatment, and support for the HIV-infected male partner and the entire family [5].

Globally, male involvement has been recognized as a priority focus area to be strengthened in PMTCT. However, testing male partners for HIV in the context of PMTCT remains a challenge in most low - and middle-income countries. Previous studies in Sub-Saharan Africa have demonstrated that, despite efforts to encourage men to be involved in PMTCT services, only a few men respond positively by accompanying their female partners for antenatal care (ANC) and participating in PMTCT programmes [6].

At the household level, male partners have a significant influence over women's utilization of health services, acceptance of HIV counselling and testing results, ability to adhere to antiretroviral drugs, and infant feeding decisions. [7] However, due to a lack of information, men are often ill-equipped to make informed decisions or to take on responsibilities for safe pregnancies and delivery, preventing HIV infection, and helping their families access HIV prevention, testing, care, and treatment services. Women who can disclose their HIV positive status to a male partner are more likely to adhere to antiretroviral treatment and infant feeding recommendations [8].

Nigeria introduced PMTCT in 2001, but the poor performance of the programme when compared with other countries, some of which are less economically viable, has been of great concern to local authorities. [9] For example, despite its scaled–up response for PMTCT over the years, Nigeria still contributes the greatest number of infants infected

with HIV worldwide. [9] The reason has been identified to be low accessibility of PMTCT services, which has made it difficult to identify pregnant women with HIV and thus exposed the unborn babies to HIV infections before and after delivery. A major gap identified by various reports for the low uptake of PMTCT services has been insufficient knowledge of MTCT and its prevention [10].

Men are decision makers in many African settings where PMTCT is offered, and without working with men, change would be very difficult or impossible. [11] The literature also shows that risky behaviours change dramatically among couples where partners are aware of their HIV sero-status. Furthermore, a major factor that prevents some women from accepting HIV testing is the need to seek their partners' consent. [12] This study assessed the knowledge and practices of married HIV positive men towards the prevention of mother-to-child transmission of HIV. The result obtained from this study will be useful to policy-makers in developing appropriate and evidence-based strategies that promote the participation of married men in PMTCT. It would also help in determining the factors that may encourage male partners' participation in PMTCT. Furthermore, the findings of the study could stimulate further research on male involvement in PMTCT services.

2. Methodology

2.1. Study Area

Kano is one of the 36 States of the Federal Republic of Nigeria, it is located in the Northwest geo-political zone of the country, with an estimated population of 13,377,462 and has HIV prevalence of 2.2% based on the National HIV Sero-Prevalence Sentinel Survey (HSS) 2014 report, this translates to 2 in 100 Kano people infected with HIV [13, 14].

Established in 1988, the Aminu Kano Teaching Hospital commenced clinical services in 1994 at a temporary site in Murtala Mohammed Specialist Hospital, Kano, and later moved to the permanent site in 1997. The hospital operates a multidisciplinary, specialist clinic for HIV/AIDS patients, which is located at the Prof. S. S. Wali Centre. The center provides adult ART Services, pediatric ART Services, HIV counselling and testing (HCT) Services, community home-based care services (CHBC), prevention of mother to child transmission (PMTCT) Services, laboratory services, adherence counselling service, monitoring and evaluation, ARV pharmacy, and training/workshops. Currently, about 20,000 patients have been enrolled, and about 9000 are on various ARV regimens [15].

2.2. Study Design

The study was a descriptive cross-sectional study.

2.3. Study Population

The study population consisted of adult HIV positive married male patients who have been receiving care in the study site.

2.3.1. Inclusion Criteria

All consented adult patients (18 years and above) who are married and have been diagnosed with HIV/AIDS and are attending the ART clinic.

2.3.2. Exclusion Criteria

Patients who are too sick to participate.

2.4. Sample Size Determination

The required sample size was obtained using the Cochran formula

$$N = \frac{Z^2 pq}{d^2}$$

Where,

n = minimum required sample size

Z = Standard normal deviate corresponding =1.96

d= precision = 5% = 0.05

Prevalence of good knowledge from previous study = 17% [16] = 0.17

q= 1-p=1-0.17 =0.83

Therefore, $\frac{n=(1.96)^2(0.17)(0.83)}{(0.05)^2}$

n=217

The minimum sample size is rounded up to 220.

2.5. Sampling Technique

A consecutive sampling technique was employed to select respondents for the study. This non-probability sampling method was chosen to ensure the deliberate inclusion of individuals who met specific inclusion criteria relevant to the study's objectives.

2.6. Data Collection Methods

The study employed a quantitative method of data collection.

2.6.1. Instruments of Data Collection

An interviewer-administered, semi-structured, pre-tested questionnaire adapted from a study conducted in Zambia was used to collect data from eligible, consented respondents. The questionnaire consisted of Section I, Socio-demographic information; Section II, Knowledge of PMTCT; Section III, Practices of PMTCT among married men attending the antiretroviral clinic in the study site.

2.6.2 Pre-Testing

The questionnaire was pre-tested at the Murtala Muhammad Specialist Hospital, Kano using 10% of the calculated minimum sample size.

2.7. Data Management and Analysis

The data collected was checked manually for completeness, then cleaned, coded, and appropriately transferred into the Statistical Package for Social Sciences (SPSS) for analysis. The results obtained were presented as charts and in tabular form. Comparison of categorical variables for association was conducted using a chi-squared test and regression analysis to determine the factors associated with the married HIV positive male partners' knowledge and practices towards the prevention of mother-to-child transmission of HIV.

Questions used to assess the knowledge were dichotomised into "Yes" or "No" responses. Responses were then scored, with a score of one (1) for each correct answer. The total score of the correct answers is 10. Respondents with a total score of 1 to 5 were operationally defined as having low knowledge, while those with a total score of 6 to 10 were operationally defined as having high knowledge of PMTCT of HIV.

Questions on practices were used to categorize the respondents into those with positive and those with negative behaviours. Positive behavior is one where the respondent practices more than half of the questions asked about PMTCT of HIV. Negative behavior is one where the respondent does not practice more than half of the questions concerning PMTCT of HIV.

2.8. Ethical Considerations

Ethical clearance was obtained from the Medical Research Ethics Committee of Aminu Kano Teaching Hospital, Kano. Ethical clearance number: AKTH/MAC/SUB/12A/P-3/VI/3276. Written informed consent was sought from the study participants using a consent form for signing or a thumbprint.

2.9. Limitations

Some of the research assistants encountered language barrier while administering the questionnaires among study respondents. This was overcome by pairing them with others who understand the local Hausa language. Recall bias was also a limitation, but was minimized by collecting information on recent history, rather than a prolonged period.

3. Results and Findings

A total of 220 respondents were recruited into the study, and all responded to the questions, giving a response rate of 100%.

3.1. Socio-Demographic Characteristics of Respondents

Table 1. *Socio-Demographic Characteristics of Respondents.*

Socio-Demographic Characteristics	Frequency (n = 220)	Percentage (%)
Age group (Years)		
20 – 30	4	1.8
31 – 40	145	65.9
41 – 50	43	19.5
51 – 60	25	11.4
>60	3	1.4
Mean (SD)	38 (8.7)	
Tribe		
Hausa	171	77.7
Fulani	31	14.1
Others	18	8.2
Religion		
Islam	195	88.6
Christianity	25	11.4
Occupation		
Trading/Business	13	5.9
Civil servants	143	65.0
Others	47	29.1
Level of education		
None	7	3.2
Qur'anic	33	15.0
Primary	2	0.9
Secondary	27	12.3
Tertiary	151	68.6
Marital Status		
Married	206	93.6
Divorced	9	4.1
Widowed	5	2.3
Marital setting		
Monogamous	133	60.5
Polygamous	87	39s.5
Partner's occupation		
Trading/Business	30	13.6
Civil servant	108	49.1
Tailor	65	29.5
Others	17	12.2

The age of the respondents ranged from 20 to 75 years, and the majority, 145 (65.9%), were between 31 to 40 years. The mean (SD) age of the respondents was 38 (8.7) years. Most of the respondents, 195 (88.6%), were Muslims, married 206 (93.6%), and had formal education, 180 (81.8%).

3.2. Respondents' Knowledge of the PMTCT Programme

Table 2. Indices Used for Assessing the Respondents' Knowledge of the PMCTC Programme.

Variables	YES F (%)	NO F (%)
Knows that an HIV positive mother can transfer HIV to her unborn baby	210 (95.5)	10(4.5)
Ever heard about the programme for preventing mother-to-child transmission of HIV	161 (73.2)	59(26.8)
Knows that MTCT of HIV does not occur during eating	30 (13.6)	190(86.4)
Knows that MTCT of HIV can occur during pregnancy	133 (60.5)	87(39.5)
Knows that MTCT of HIV cannot occur while urinating	39 (17.7)	181(82.3)
Knows that MTCT of HIV can occur through breast milk	186 (84.5)	34(15.5)
Knows that MTCT of HIV can occur during delivery	187 (85.0)	33(15.0)
Knows that it is possible to reduce the MTCT of HIV	220(100.0)	0(0.0)
Knows that MTCT of HIV can be reduced through counselling and testing	188 (85.5)	32(14.5)
Knows that MTCT of HIV can be reduced through a caesarean section	182 (82.7)	38(17.3)
Knows that MTCT of HIV can be reduced using antiretroviral drugs for the mother	193 (87.7)	27(12.3)
Knows that MTCT of HIV can be reduced by using antiretroviral drugs for the baby	198 (90.0)	22(10.0)
Knows that MTCT of HIV cannot be reduced by using condoms	212 (96.4)	8(3.6)

As can be seen in the table above, most of the respondents, 161 (73.2%), had heard of the programme for preventing mother-to-child transmission of HIV.

Table 3. Grading of Respondents' Knowledge of the PMTCT Programme.

Grading	Frequency (%) (n = 220)
Good (7-10)	130 (59.0)
Fair (4-6)	60 (27.3)
Poor (0-3)	30 (13.7)

When the respondents' responses were scored and graded, it was observed that 130 (59%) had good knowledge of the PMTCT programme, as shown in Table 3.

3.3. Respondents' Practices of the PMTCT Programme

Table 4. Indices Used in Assessing the Respondents' Practices of the PMCTC Programme.

Variables	Frequency (%)
1. Wife/partner counselled and test for HIV during last pregnancy	210 (95.5)
2. Discussed with wife/partner about counselling and testing for HIV during the last pregnancy	213 (96.8)
3. Willing to discuss with wife/partner about counselling and testing for HIV during the next pregnancy	219 (99.5)
4. Ever visited MCH/PMCTC clinic with wife/partner	111 (50.4)
5. Willing to visit MCH/PMCTC with wife/partner during the next pregnancy	217 (98.6)
6. Been counselled and tested for HIV with wife/partner at MCH/PMCTC clinic	213 (96.8)
7. Willing to go for HIV counselling and testing during next pregnancy	218 (99.1)
8. Willing to accept ART for wife/partner to prevent MTCT of HIV	220 (100.0)
9. Willing to abandon breastfeeding to prevent MTCT of HIV if advised	220 (100.0)
10. Willing to buy formula milk for the baby if breastfeeding is contraindicated	220 (100.0)
11. Willing to accept ARVs for the baby	220 (100.0)
12. Willing to accept that the baby be tested for HIV at the PMCTC clinic	219 (99.5)

Most of the respondents, 210 (95.5%), said their wife/partner was counselled and tested for HIV during the last pregnancy. However, only half of the respondents reported ever visiting the MCH/PMTCT clinic together with their partners.

Table 5. Grading of Respondents' Practices of the PMTCT Programme.

Grading	Frequency (%) (n = 220)
Good (6-10)	135 (61.4)
Bad (0-5)	85 (38.6)

The practices of the respondents regarding the PMTCT programme were graded as shown in Table 5 above. It was found that 135 (61.4%) of the respondents had good practice of PMTCT, whereas 85 (38.6%) had bad practice of PMTCT.

3.4. Factors Associated with the Male Partners' Knowledge of PMTCT

Table 6. Factors Associated with Knowledge of PMTCT Among the Respondents.

Variable	Knowledge of PMTCT				
Age group (Years)	Good (%) (n=130)	Fair (%) (n=60)	Poor (%) (n=30)	χ^2	p value
<30	48(36.9)	25(41.7)	13(43.3)		
>30	82(63.1)	35(58.3)	17(56.7)	6.78	<0.001*

Variable	Knowledge of PMTCT				
Marital status					
Divorced	44(33.8)	23(38.3)	20(66.7)		
Married	86(66.2)	37(61.7)	10(33.3)	8.62	<0.001*
Marriage Setting					
Monogamous	70(53.8)	17(28.4)	12(40.0)	3.23	0.07
Polygamous	60(46.2)	43(71.6)	18(60.0)		
Religion					
Islam	67(51.5)	31(51.6)	21(79.1)		
Christianity	63(48.5)	29(48.4)	9(20.9)	0.04	0.84
Tribe					
Hausa/Fulani	52(40.0)	38(63.3)	17(70.0)		
Other Tribes	78(60.0)	22(36.7)	13(30.0)	5.56	0.06
Marriage duration					
<10 years	80(61.5)	33(55.0)	11(36.7)		
>10 years	50(38.5)	27(45.0)	19(63.3)	8.62	<0.001*
Education					
Formal	102(78.5)	49(81.7)	3(10.0)	3.34	0.04*
Informal	28(21.5)	11(18.3)	27(90.0)		

*Statistically significant

At the bivariate level of analysis, PMTCT Knowledge was found to be significantly associated ($p<0.05$) with age, marital status, formal education and duration of marriage of the respondents (Table 6).

Table 7. *Predictors of the Male Partners' Knowledge of PMTCT.*

Variable	Frequency n (%)	Crude OR	Adjusted OR (95% CI)	p value
Age				
<30	3(1.4)	1		
>30	217(98.6)	2.78	1.72(0.01- 4.12)	0.02*
Marital status				
Divorced	14(6.4)	1		
Married	206(93.6)	2.58	2.10(1.19-2.47)	0.03*
Tribe				
Hausa/Fulani	171(77.7)	1	1.17(0.08-1.93)	0.23
Other Tribes	49(22.3)	1.24		
Level of education				
Informal	40(18.2)	1	1.53(1.08-4.54)	0.03*
Formal	180(81.8)	2.23		
Marriage Setting				
Monogamy	133(60.5)	1	0.39(0.08-2.83)	0.23

Variable	Frequency n (%)	Crude OR	Adjusted OR (95% CI)	p value
Polygamy	87(39.5)	1.48		
Number of children				
<10	194(87.2)	1	2.94(0.66-13.25)	0.16
>10	26(11.8)	3.4		
Marriage duration				
<10	120(54.5)	1	1.51(1.98-4.54)	0.01*
>10	100(45.5)	2.23		

Note: *= statistically significant at ($p \leq 0.05$); 1 = reference group.

At the multivariate level of analysis, the socio-demographic factors associated with male partners' knowledge of PMTCT of HIV were age, marital status, level of education and the duration of marriage of the respondents ($p \leq 0.05$) as shown on Table 7.

3.5. Factors Associated with the Male Partners' Practices of PMTCT

Table 8. Factors Associated with Practices of PMTCT Among the Respondents.

Variable	Good (%) (n=135)	Bad (%) (n=85)	χ^2	p value
Age group (Years)				
<30	103(67.3)	21(25.0)	8.41	<0.001*
>30	32(32.7)	64(75.0)		
Level of education				
Formal	105(77.8)	15(17.6)	9.05	s0.003*
Informal	30(22.2)	70(82.4)		
Marital status				
Divorced	88(65.4)	37(42.9)	12.2	<0.001*
Married	73(34.6)	48(57.1)		
Marriage Setting				
Monogamous	115(85.0)	18(21.46)	7.16	0.07
Polygamous	20(15)	67(78.6)		
Religion				
Islam	73(53.6)	55(64.3)	3.22	0.02*
Christianity	62(46.4)	30(35.7)		
Tribe				
Hausa/Fulani	40(29.4)	46(53.6)	9.15	0.007*
Other Tribes	95(70.6)	39(46.4)		
Duration of Marriage				

Variable	Good (%) (n=135)	Bad (%) (n=85)	χ^2	p value
<10 years	79(58.8)	64(75.0)	8.70	0.32
>10 years	56(41.2)	21(25.0)		

*Statistically significant

A bivariate level analysis between the socio-demographic characteristics of the respondents and the 3 different grades of practice of the respondents. PMTCT practice was found to be significantly associated ($p<0.05$) with age, marital status, religion, tribe, and level of education of the respondents (Table 8).

Table 9. *Predictors of the Male Partners' Practices of PMTCT.*

Variable	Frequency n (%)	Crude OR	Adjusted OR (95% CI)	p value
Age				
<30	16(1.4)	1		
>30	204(98.6)	3.10	2.17(0.01- 4.12)	0.002*
Marital status				
Divorced	40(6.4)	1		
Married	180(93.6)	4.02	2.24(1.19-2.47)	0.03*
Tribe				
Hausa/Fulani	38(77.7)	1		
Other Tribes	182(22.3)	2.26	2.00(0.08-2.93)	0.03*
Level of education				
Informal	30(18.2)	1	2.53(1.63-4.54)	0.03*
Formal	190(81.8)	3.23		
Marriage Setting				
Polygamy	133(60.5)	1	1.39(0.78-2.83)	0.23
Monogamy	87(39.5)	2.48		
Number of children		ss		
<10	98(44.5)	1	2.98(1.16-13.25)	0.16
>10	122(55.5)	1.18		
Marriage duration				
>10	108(49.1)	1	1.98 (1.11-3.54)	0.10
>10	112(50.9)	2.23		

Note: *= statistically significant at ($p \leq 0.05$); 1 = reference group.

A multiple regression analysis carried out to predict the socio-demographic factors associated with male partners' practices of PMTCT of HIV showed that age, marital status, tribe, and level of education of the respondents statistically significantly affect the practices of PMTCT among the respondents ($p \leq 0.05$) as shown in Table 9.

4. Discussion

This study assessed the knowledge and practices of male partners regarding the Prevention of Mother-to-Child Transmission (PMTCT) of HIV. Although most respondents reported being Knowledgeable of the PMTCT program, a significant portion still were not Knowledgeable. This is particularly striking given that the study was conducted in a tertiary health facility where most participants had formal education. The findings were contrary to those of the OPHID study, which indicated notably higher Knowledge levels. This discrepancy may be attributed to OPHID's focus on HIV-positive men who were actively attending PMTCT clinics, a group more likely to be informed due to their engagement in HIV care [17].

However, this level of Knowledge is higher than that of a study in Cameroon, among hospital patients reported considerably lower levels of PMTCT knowledge. [18] Similarly, a study conducted in Uganda by Tweheyo [19] found low levels of male involvement and knowledge, particularly in rural settings where educational opportunities were limited. These comparisons emphasized the influence of healthcare settings, participant characteristics, and educational exposure on Knowledge levels. While the current study's setting offered greater opportunities for information dissemination, the level of Knowledge observed suggests that these opportunities are not being fully utilized.

When examining knowledge about specific modes of mother-to-child transmission (MTCT), respondents in our study demonstrated a better understanding of HIV transmission during labour and breastfeeding than during pregnancy. This trend aligns with findings from the OPHID study, where labour and breastfeeding were more commonly recognized as routes of MTCT. [20] In contrast, a similar study in Nigeria, reported widespread misconceptions about the timing of transmission, particularly among men not directly involved in maternal care services.[21] The relatively better knowledge observed in our study may reflect increased exposure to PMTCT-related messaging among HIV-positive individuals.

Regarding preventive strategies, most respondents were familiar with key interventions, such as HIV counselling and testing, caesarean sections, and the use of antiretroviral therapy (ART) for mothers and infants. These findings echo those from the OPHID study and a similar investigation by Kalembo Malawi, where a high level of knowledge about ART as a preventive measure was reported among men attending HIV clinics.[8] However, this understanding was higher than that observed in a study conducted in Northern Ethiopia, where concepts like avoidance of breastfeeding and ART use were poorly understood. Such differences highlight the importance of health education and targeted communication in shaping male partners' knowledge and involvement. [5].

The present study also assessed overall knowledge scores, revealing that most respondents had good knowledge of PMTCT. This contrasts with findings from Haile, where most respondents fell into the moderate knowledge category, and only a few demonstrated high levels of Knowledge. A study in Uganda by Byamugisha et al. similarly reported low knowledge levels among male partners, attributing this to the inadequate targeting of male interventions within maternal health services. [22].

In terms of practices, most respondents indicated that their partners had undergone HIV counselling and testing during their last pregnancy. However, fewer reported attending PMTCT or maternal and child health (MCH) clinics with their partners. This finding is consistent with studies from Nigeria and Ethiopia, where male attendance at antenatal care remains low despite knowledge of its importance. [17]. Encouragingly, most participants in the present study expressed a willingness to engage in future HIV testing and adopt recommended PMTCT practices. This willingness to support interventions such as exclusive formula feeding or the use of antiretrovirals reflects positively on the potential for scaling up male involvement in PMTCT [23].

Significant associations were observed between socio-demographic variables and PMTCT Knowledge. Education emerged as a strong predictor; respondents with formal education were

more knowledgeable about PMTCT than those with informal or no education. This aligns with research conducted by Aarnio et al. in Mozambique, which demonstrated a positive correlation between education and PMTCT knowledge. Marital status, age, and duration of marriage also showed significant association; married respondents and those with shorter marriage durations were more likely to know about the PMTCT program. This could be due to their active engagement in childbearing and healthcare decision-making processes; a trend also identified in studies from Rwanda and South Africa [24].

Regarding practice, the study found that factors such as older age, marital status, formal education, religion, and ethnicity influenced respondents' involvement in PMTCT activities. Older and married participants were more likely to engage in PMTCT-related behaviors, consistent with findings by Peltzer et al. in South Africa, who reported similar trends. [25].

A notable finding from our study was the impact of ethnicity on participation in PMTCT programs. Non-Hausa respondents were more likely to be involved in these programs compared to Hausa/Fulani participants. This trend aligns with previous studies conducted in northern Nigeria, which identified cultural norms and gender roles within Hausa/Fulani communities as barriers to male involvement in reproductive health services. [26]. Additionally, respondents with shorter marriage durations tended to be more actively engaged, possibly reflecting their recent experiences with pregnancy and childbirth.

5. Conclusion

This study demonstrated that while many male partners know about the PMTCT program, significant gaps exist in both their knowledge and active participation. Factors such as education level, age, marital status, ethnicity, and duration of marriage notably influenced knowledge and engagement. To improve PMTCT uptake and decrease mother-to-child HIV transmission, it is essential to strengthen male involvement through targeted, culturally sensitive interventions.

6. Recommendations

1) Strengthen Male-Targeted PMTCT Education Campaigns: Health education initiatives should specifically target men, particularly those with low or no formal education. These campaigns must emphasize the importance of male involvement in PMTCT and various ways men can support their partners.
2) Integrate Men into Antenatal and PMTCT Services: Health facilities should develop policies that actively encourage male participation during antenatal visits and HIV counselling sessions. Promoting couple-based HIV testing should become a standard part of antenatal care.
3) Use Culturally Sensitive Approaches to Reach Underrepresented Groups: Tailored interventions should address cultural and ethnic barriers, especially within communities such as the Hausa/Fulani, where male involvement is lower.
4) Community Engagement and Peer Influence: Community leaders and male role models should be involved in advocacy and mobilization efforts to normalize male participation in PMTCT services and reduce stigma.
5) Incorporate PMTCT knowledge in General Adult Education and Literacy Programs: Including PMTCT topics in adult literacy and community education initiatives can help reach men who are out of school and might not otherwise access formal health information.
6) Strengthen Monitoring and Evaluation of Male Involvement: Health systems should incorporate male involvement indicators into PMTCT program monitoring tools to evaluate the effectiveness of interventions and adjust strategies as needed.

Abbreviations

AIDS	Acquired Immune Deficiency Syndrome
AKTH	Aminu Kano Teaching Hospital

ANC	Antenatal Care
ART	Antiretroviral Therapy
ARV	Antiretroviral
AOR	Adjusted Odds Ratio
CHBC	Community Home-Based Care
CI	Confidence Interval
HCT	HIV Counselling and Testing
HIV	Human Immunodeficiency Virus
HSS	HIV Sero-Prevalence Sentinel Survey
LMICs	Low- and Middle-Income Countries
MCH	Maternal and Child Health
MTCT	Mother-to-Child Transmission
OPHID	Organization for Public Health Interventions and Development
PMTCT	Prevention of Mother-to-Child Transmission
SD	Standard Deviation
SPSS	Statistical Package for Social Sciences
SSA	Sub-Saharan Africa
WHO	World Health Organization

Author Contributions

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Conflicts of Interests

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