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Determinants of Mother-to-Child Transmission of Human Immunodeficiency Virus among Clients Enrolled in a Prevention of Mother-to-Child Transmission of HIV Program in Plateau State, Nigeria

Kefas I. B.[1*], Ikpe G.[1], Magaji A. I.[2], Golden O.[1], Abutu A.[3], Gayathri K.[4], Ikrama H.[5]
[1]*National Clinical Mentor, National AIDS, STIs, and Hepatitis Control Program, Nigeria*
[2]*National Primary Health Care Development Agency, Abuja*
[3]*Division of Global HIV and TB, United States Centers for Disease Control and Prevention, Abuja, Nigeria*
[4]*US Center for Disease Control, Atlanta, USA*
[5]*Federal University Teaching Hospital Lafia, Nigeria*

Abstract

Maternal-to-child transmission (MTCT) of the human immunodeficiency virus (HIV) accounts for the majority of new pediatric HIV infections. Preventing MTCT of HIV (PMTCT) remains a critical intervention for ensuring that women and children survive and have a high quality of life. This study reflects on the determinants of MTCT in Plateau State. A retrospective analysis of mother-infant pairs enrolled in the PMTCT program across 29 HIV treatment sites in Plateau State between 2017 and 2021 was carried out. Data were extracted from facility registers and Electronic Medical Record (EMR). HIV-positive mothers and infants' pairs who met inclusion criteria were enrolled. HIV MTCT predictors were ascertained using a logistic regression model at a 5% level of statistical significance. Data from 3,430 mother-infant pairs were analyzed. EID PCR-positive results were found in 0.8% of infants at six weeks and 1.2% at 18 months. Predictors at six to eight weeks included maternal gravidity (OR= 0.13, 95% CI 0.018:0.927, p<0.05), point of entry (PoE) into the PMTC program (OR= 10.9, 95% CI 4.7:25.4, p<0.001), and high viral load count among mothers (OR= 3.4, 95% CI 1.40:8.71, p<0.05). Predictors at 18 months were gravidity (OR = 0.19.95% CL 0.05:0.84, p = 0.05), and PMTCT program PoE (OR= 12.5, 95% CI 5.51:28.20, p < 0.001). This study identifies key determinants in mother-to-child HIV transmission in Plateau State, including PMTCT entry of point, gravidity, and high maternal viral load, underscoring the need for targeted interventions focusing on enhancing healthcare accessibility.

Keywords*: Determinant, Human Immunodeficiency Virus, Prevention of Mother–child Transmission, Plateau.*

Introduction

Mother-to-child transmission of HIV has remained a major cause of new HIV infection in children [1, 2]. Globally, an estimated 27,000 mothers acquired new HIV infections during pregnancy and delivery, and 65,000 mothers did not receive antiretroviral treatment (ART) during pregnancy or delivery in 2022 [3], Western and Central Africa home to 20% of pregnant and breastfeeding mothers living with HIV, accounting for more than 52% of mothers who did not have ART during pregnancy and delivery in 2022 [3, 4]. The coverage of antiretroviral therapy among pregnant and breastfeeding women living with HIV has

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****Corresponding Author: kefasibrahim@gmail.com***

improved globally. Nevertheless, progress has stagnated in recent years, with coverage remaining in the range of 53–61% since 2016 [5, 6].

Prevention of mother-to-child transmission of HIV has played a vital role in reducing the number of children infected with HIV [7-10]. The risk of MTCT can be reduced to less than 2% by interventions that include the use of antiretrovirals (ARVs) as either prophylaxis or therapy given to women during pregnancy, labor, and breastfeeding [3, 11]. However, the implementation of PMTCT has varied in terms of the degree of success and challenges.

Nigeria had a high MTCT burden of 14% in 2020 [12, 1, 13]. In response, the Government of Nigeria, through the National AIDS and STIs Control Program, has implemented a comprehensive approach to the PMTCT since 2003 [14]. The current PMTCT guidelines advocate four pronged approaches for addressing the mother-to-child transmission of HIV. These four prongs represent the key components of broad PMTCT service provision: primary prevention of HIV infection among women of childbearing age (prong 1), prevention of unintended pregnancies among women living with HIV (prong 2), prevention of HIV transmission from a woman living with HIV to her infant (prong 3), and treatment, care, and support for women living with HIV, their children, and families (prong 4) [13]. The uptake of PMTCT services in Nigeria remains notably low despite significant advances in HIV/AIDS treatment and care [13, 15, 2, 14]. To ensure that all HIV-positive pregnant women are reached, the Nigerian government and implementing partners introduced several interventions, including community-based PMTCT [14, 2]. Community-based PMTCT is a strategy to provide PMTCT services by formal (trained health personnel) or informal care providers such as traditional birth attendants [14]. It emphasizes community collaborative work and aims at improving referral practices between traditional birth attendants and primary health care clinics and induces self-referral to skilled birth providers [14, 13]. Notably, the Federal Ministry of Health initiated the National Clinical Mentorship Program to drive the capacity development of health care workers and achieve HIV epidemic control [16]. Other interventions, such as the Accelerating Progress in Pediatric and PMTCT as well as the National Treatment and PMTCT Program, aim at closing the gaps identified in pediatric, adolescent, and mother-to-child HIV cases to ensure that everyone has access to life-saving medication [17, 18].

The plateau state has an HIV prevalence of 6.84% among pregnant women [19]. This means that every six to seven infants born to a hundred HIV-positive women are potentially exposed to HIV and are at high risk of morbidity and mortality [19]. and MTCT was reported to be 2% [20]. Effective PMTCT services require women–infant pairs to have access to all relevant interventions. This study aims to assess the factors affecting the MTCT rate in Plateau State, Nigeria, to improve HIV healthcare for mothers and their children with HIV.

Methodology

Study Area

The study was conducted in Plateau State, Northcentral Nigeria [21]. The plateau state has 17 local government areas (LGAs), which are politically divided into northern, central, and southern Senatorial districts [21]. Each of these has people of diverse tribes and traditions. The plateau state has a projected population of 4,717,300 people as of 2022 [22].

Twenty-nine comprehensive treatment sites and six PMTCT sites supported by the United States Center for Disease Control and Prevention (CDC) President's Emergency Plan for AIDS Relief (PEPFAR) program through the APIN Public Health Initiative are distributed in 14 of the state's 17 LGAs. The State AIDS STI Control Program coordinates

health sector HIV activities in the state, whereas the Plateau State AIDS Control Agency coordinates non-health sector HIV activities.

Study Design

A retrospective data review of a cohort of pregnant women and infants enrolled in PMTCT programs on the Plateau State between 2017 and 2021 was performed.

Study Population

The study population included all HIV-positive pregnant women and their infants in the PMTCT program across 29 health facilities in plateau states between 2017 and 2021.

Inclusion Criteria

HIV-positive mothers and infants who were enrolled and received care at PEPFAR-supported sites in Plateau State from 2017–2021.

Exclusion Criteria

HIV-positive mothers and infant pairs who transferred out of the program or died during the period of receiving PMTCT care. Those with incomplete EMRs were also excluded.

Sample Size Determination and Sampling Technique

We reviewed 3,641 mother–infant pairs in the state from 2017--2021. Three thousand four hundred thirty (3,430) HIV-positive mothers and infant pairs who met the inclusion criteria were included in the study.

Data Collection Method

The study participants' data were extracted from the facility registers (PMTCT, mother–infant cohort, and pediatric registers) and EMRs via an Excel-based data abstraction tool. State clinical mentors served as research assistants throughout the study period. To standardize study tools across sites, a two-day virtual training was held with all the clinical mentors.

The primary outcome of interest in the study was the infant HIV MTCT rate at six weeks and 18 months (final outcome), which was measured via a binary response category: positive and negative. The independent factors considered were grouped into maternal-related factors: sociodemographic characteristics, maternal ART regimen, timing of maternal ART (commencement of ART prior to pregnancy or during pregnancy), maternal viral load timing (when the last viral load was carried out), viral load suppression status, and interruption in treatment (IIT), as well as infant factors such as comorbidity, infant postexposure prophylaxis, and cotrimoxazole uptake. The viral load was defined as suppressed if it was less than 1,000 copies/ml at 32–36 weeks of pregnancy and unsuppressed if it was ≥1000 copies/ml. IIT was defined as the number of ART patients (currently on ART or newly initiating ART) with no clinical contact or ARV pick-up for more than 28 days since their last expected clinical or ARV pick-up.

Data Analysis

All the generated data were entered into Microsoft Excel version 2016. The Statistical Package for Social Sciences (SPSS) version 26 was used to analyze the data. A p value < 0.05 was considered statistically significant for all the statistical tests. Descriptive data are presented in tables and frequencies. Continuous data were summarized using means and standard deviations. Associations between the independent variables (sociodemographics of mothers and infants and clinical characteristics) and the outcome variables (HIV status of an infant at six weeks and at 18 months) were assessed at the bivariate level via an independent chi-square test. The significant variables in the bivariate analysis were modeled via multiple logistic regression at the 5% level of significance and the 95% confidence interval to ascertain the determinants.

Results

A total of 3,430 mother–infant pairs of data were analyzed. The mean age of the mothers was 33.7±7.16 years. The majority of the pregnant mothers were aged 25--34 years (n=1,465, 42.7%), had completed secondary education (n=1692 49.35%), were employed (n=2449 71.4%), and had undergone fewer than four pregnancies (n=2573 75.0%). Additionally, a majority of mothers who lived in rural areas (n=2,058, 60.0%), smoked before 32 weeks of gestation (n=2,842, 82.9%) were on the first-line ART regimen (n=3,272, 95.4%), were initiated on ART before pregnancy (n=2,842, 82.9%), and had one to four clinic visits throughout the antenatal period (n=2943, 85.8%). Among the 3,430 mothers, 3,188 (92.9%) had a viral load below 1,000 copies/ml, 3,057 (89.1%) had viral load assessments within the critical window of 32--36 weeks of pregnancy, and 143 (4.2%) had an IIT (Table 1).

Table 1. Background Characteristics of HIV Pregnant Mothers Enrolled in PMTCT in Plateau State (2017–2021) (N = 3,430)

S/N	Variables	Frequency (n=3430)	Percentage (%)
1	**Age**		
	15-24	319	9.3
	25-34	1465	42.7
	35-44	1461	42.6
	≥ 45	185	5.4
2	**Gravidity**		
	1-4	2573	75.0
	> 4	857	25.0
3	**Educational Level**		
	None	221	6.4
	Primary	787	23.0
	Secondary	1692	49.3
	Tertiary	730	21.3
4	**Occupation**		
	Employed	2449	71.4
	Unemployed	891	28.6
5	**Place of residence**		
	Rural	2058	60.0
	Urban	1372	40.0
6	**Point of entry into PMTCT**		
	Antenatal clinic	3312	96.6
	Others*	118	3.4
7	**Maternal ART regimen**		
	First line	3272	95.4
	Second line	156	4.5
	Third line	2	0.1
8	**Timing of Mothers ART**		
	Before pregnancy	2842	82.9
	Initiated during pregnancy < 36 weeks	552	16.1

	Initiated after 36 weeks pregnancy	36	1.0
9	**Total number of clinic visits**		
	1-4	2943	85.8
	> 4	487	14.2
10	**Mother viral load level**		
	Suppressed	3188	92.9
	Unsuppressed	242	7.1
11	**Maternal viral load timing**		
	Viral load done within 32 to 36 weeks	3057	89.1
	Viral load done any other time	373	10.9
12	**Maternal IIT during PMTCT**		
	Active	3287	95.8
	IIT	143	4.2

** Others include labor and delivery, breastfeeding*

Among the infants included, 3,358 (97.9%) were enrolled in PMTCT programs between zero and two months of age, 2,509 (73.1%) were delivered at a healthcare facility, 1,804 (52.6%) attended tertiary healthcare facilities, 3,190 (93.0%) commenced ARV (nevirapine (and zidovudine, if the baby is high risk)) within 72 hours, and 3,405 (99.3%) commenced cotrimoxazole at six weeks (Table 2).

Table 2. Background Characteristics of HIV-Exposed Infants of Mothers Receiving PMTCT in the Plateau State (2017–2021) (N = 3,430)

S/N	Variables	Frequency (n=3430)	Percentage (%)
1	**Age at enrollment of infant**		
	0-2 months	3,358	97.9
	>2 months	72	2.1
2	**Sex**		
	Male	1708	49.8
	Female	1722	50.2
3	**Place of delivery**		
	Facility	2509	73.1
	Outside facility	921	26.9
4	**Facility type**		
	Primary	25	0.7
	Secondary	1601	46.7
	Tertiary	1804	52.6
5	**Timing of ARV prophylaxis**		
	Within 72 hours	3190	93.0
	> 72 hours	240	7.0
6	**Cotrimoxazole uptake by 6 weeks**		
	Yes	3405	97.3
	No	25	0.7

Twenty-nine (0.8%) HEIs tested positive at six weeks, and 42 (1.2%) were positive at eighteen months (Table 3).

Table 3. MTCT Outcomes of HEIs of Mothers on PMTCT in the Plateau State (2017–2021) (N = 3,430)

S/N	MTCT Outcome	Frequency (n=3430)	Percentages (%)
1	**PCR at six weeks**		
	Positive	29	0.8
	Negative	3401	99.2
2	**Rapid Test at eighteen months**		
	Positive	42	1.2
	Negative	3388	98.8

There was a statistically significant association between gravidity and HIV test results at six weeks (p=008) and 18 months (p=0.011). The point of entry was significantly associated with the HIV test results at six weeks (p<0.001) and at 18 months (p< 0.001). Gestational age at booking was statistically associated with HIV test results at six weeks (p<0.001) and at 18 months (p<0.001). We also found that facility type was not associated with HIV test results at six weeks (p=0.744), but it was significantly associated with HIV results at 18 months (p=0.002). The timing of mothers' initiation of ART, viral load timing and mothers' viral load status were associated with HIV test results at six weeks (p< 0.001) and 18 months (p<0.001) (Table 4).

Table 4. Maternal Factors Associated with Infant MTCT Status at Six Weeks and Eighteen Months in the Plateau State (2017–2021) (N = 3,430)

Variables of the mother	Child outcome			
	Six weeks		Eighteen months	
	Negative	positive	Negative	positive
Age				
15-24	317(99.4)	2(0.6)	311(97.5)	8(2.5)
25-34	1453(99.2)	12(0.8)	1449(98.9)	16(1.1)
35-44	1449(99.2)	12(0.8)	1446(99.0)	15(1.0)
≥ 45	182(98.4)	3(1.6)	182(98.4)	3(1.6)
	X=1.269, p value= 0.675**		X=5.062, p value= 0.153*	
Gravidity				
1-4	2545(98.9)	28(1.1)	2534(98.5)	39(1.5)
> 4	856(99.9)	1(0.1)	854(99.6)	3(0.4)
	X=7.238, p value = **0.008**		X=7.222, p value = **0.011**	
Place of residence				
Rural	2038(99.0)	20(1.0)	2033(98.9)	25(1.2)
Urban	1363(99.3)	9(0.7)	1358(99.0)	14(1.0)
	X=0.960, p value = 0.349		X=p-0.325, value = 0.636	
Point of entry				
Antenatal clinic	3303(99.7)	9(0.3)	3296(99.5)	16(0.5)
Others‡	98(83.1)	20(16.9)	92(78.0)	26(22.0)
	X=102,870, p value =**<0.001****		X=126.285, p value = **<0.001****	
Time of booking				
Before 32 weeks	32936(99.6)	12(0.4)	2932(99.7)	9(0.3)

After 32 weeks	465(96.5)	17(3.5)	456(93.3)	33(6.7)
	X=106.963, p value = **0.001****		X=143.882, p value = **0.001**	
Type of facility				
Primary	25(100.0)	0(0.0)	22(88.0)	3(12.0)
Secondary	1589(99.3)	12(0.7)	1585(99.0)	16(1.0)
Tertiary	1787(99.1)	17(0.9)	1781(98.7)	23(1.3)
	X=0.591, p value = 0.744**		X=p value 24.709, P= **0.002***	
Maternal ART regimen				
First line	3246(99.2)	26(0.8)	3235(98.9)	37(1.1)
Second line	153(98.1)	3(1.9)	151(96.8)	5(3.2)
Third line	2(100.0)	0(0.0)	2(100.0)	0(0.0)
	X=1.724, p value = 0.422**		X=6.579, p- value = 0.063*	
Timing of Mothers ART start				
Before pregnancy	2837(99.8)	5(0.2)	2834(99.7)	8(0.3)
Initiated before < 36 weeks	541(88.0)	11(2.0)	538(97.5)	14(2.5)
Initiated at > 36 weeks and above	23(100.0)	13(36.1)	16(44.4)	20(55.6)
	X=106.154, p value = **0.001****		X=163.374, p value = **0.001****	
Maternal Viral Load Timing				
VL done within 32 to 36 weeks	3038(99.4)	19(0.6)	3033(99.2)	24(0.8)
Viral load done any other time	363(96.3)	10(2.7)	355(95.2)	19(4.8)
	X=11.530, p value = **0.001****		X=28.592, p value = **0.001****	
Viral load status of the mother				
Suppressed	3187(99.9)	1(0.1)	3196(99.9)	2(0.1)
Unsuppressed	214(98.6)	28(1.4)	202(83.5)	40(16.5)
	X=143.051, p value = **0.001****		X=202.816, p value = **0.001****	

ǂ *Labor & delivery, Breast feeding *chi-square, **Fisher's exact*

Infant age at first PCR was significantly associated with HIV test results at six weeks (p<0.00) and 18 months (p<0.001). The sex of the child was found to be statistically associated with HIV test results at six weeks (p=0.041) but not at 18 months (p=0.218). In addition, the place of delivery of HEIs was significantly associated with HIV test results at 6 weeks (p<0.001) and 18 months (p<0.001) (Table 5).

Table 5. Infant-Related Factors Associated with Positive MTCT Status at Six Weeks and Eighteen Months in the Plateau State (2017–2021) (N = 3,430)

Variables of the child	**Child outcome**			
	Six weeks		**Eighteen months**	
	Negative	**positive**	**χ^2 (P value)**	**χ^2 (P value)**
Age at First PCR				
1-2 months	3010(99.7)	10(0.3)	3002(98.4)	18(0.6)
> 2 months	391(95.4)	19(4.6)	386(94.1)	24(5.9)
	X=46.663, p value < **0.001***		X=82.504, p value< **0.001***	

Sex of infant				
Male	1688(98.8)	20(1.2)	1683(98.5)	25(1.5)
Female	1713(99.5)	9(0.5)	1705(99.0)	17(1.9)
	X=4.299, p value = **0.041****		X=1.619, p value = 0.218	
Place of delivery				
Facility	2485(99.8)	4(0.2)	2475(99.4)	14(0.6)
Others	916(99.1)	25(0.9)	913(97.0)	28(3.0)
	X=50.747, p value < **0.001***		X=32.875, p value < **0.001***	

**Chi-square test, **Fisher's exact test*

Compared with infants of mothers who had one to four pregnancies at six weeks, infants of mothers who had >4 pregnancies had 87% lower odds of MTCT (AOR = 0.13, 95% CI 0.018–0.927, p = 0.047). Compared with those who had undergone PMTCT at the antenatal clinic, those who did not have PMTCT at the antenatal clinic had 10.89 times greater odds of having MTCT at the antenatal clinic at six weeks (AOR = 10.89, 95% CI 4.67--25.42; p < 0.001). Mothers with a viral load >1000/copy/ml had 3.4 times greater odds of MTCT than those with a viral load < 1000 copies/ml at six weeks (AOR = 3.4, 95% CI 1.39–8.70, p = 0.008). (Table 6).

Table 6. Predictors of Positive MTCT Outcomes among HEIs at Six Weeks via Multiple Logistic Regression in the Plateau State (2017–2021) (N = 3,430)

Variables	**Child outcome**		**Six weeks**		
	Negative	**positive**	**AOR**	**95%CI**	**p value**
Gravidity					
1-4	2545(98.9)	28(1.1)	1		**1**
> 4	856(99.9)	1(0.1)	0.131	**0.018-0.927**	**0.047**
Point of entry					
Antenatal clinic	3306(99.4)	20(0.6)	1		
Others‡	95(91.3)	9(8.7)	10.899	**4.672-25.423**	**<0.001**
Viral load count of the mother					
< 1000	3198(99.3)	22(0.7)	1		
≥ 1000	203(96.7)	7(3.3)	3.4184	**1.394-8.708**	**0.008**
Child's Sex					
Male	1688(98.8)	20(1.2)	1		
Female	1713(99.5)	9(0.5)	0.454	0.203-1.103	0.054

‡ *Labor & delivery, Breastfeeding*

Compared with infants of mothers who had one to four pregnancies at 18 months, infants of mothers who had >4 pregnancies were 81% less likely to have MTCT (AOR = 0.198, 95% CI 0.046–0.845; p = 0.029). Compared with those who had undergone PMTCT at the antenatal clinic, those who did not have PMTCT at the antenatal clinic were 12.5 times more likely to have MTCT (AOR = 12.46, 95% CI 5.51--28.20; p < 0.001). Mothers who attended tertiary facilities with their infants were 81 percent less likely to have MTCT than mothers who attended primary health facilities at 18 months (AOR = 0.19, 95% CI 0.04–0.85, p = 0.030) (Table 7).

Table 7. Predictors of Positive MTCT Outcomes among HEIs at Eighteen Months via Multiple Logistic Regression in the Plateau State (2017–2021) (N = 3,430)

Variables	**Child outcome**			**18 months**	
	Negative	**positive**	**AOR**	**95% CI**	**p value**
Gravidity					
1-4	2536(98.6)	37(1.4)	1		
> 4	855(99.8)	2(0.2)	0.198	**0.046-0.845**	**0.029**
Point of entry					
Antenatal clinic	3299(99.2)	27(0.8)	1		
Others‡	92(88.5)	12(11.5)	12.469	**5.512-28.206**	**<0.001**
Type of facility					
Primary	22(88.0)	3(12.0)	1		
Secondary	1576(99.1)	14(0.9)	1.148	0.525-2.511	0.729
Tertiary	1782(98.8)	22(1.2)	0.186	**0.041-0.846**	**0.030**
Viral load count of the mother					
< 1000	3188(99.0)	32(1.0)	1		
≥ 1000	203(96.7)	7(3.3)	1.611	0.646-4.016	0.306
Maternal viral load timing					
Viral load within 32 to 36 weeks	3258(99.0)	34(1.0)	1		
Viral load done any other time	133(96.4)	5(3.6)	2.578	0.818-8.124	0.106

Discussion

In this study, we found an HIV MTCT rate of 1.2% after 18 months. This prevalence could be related to women's increased use of PMTCT services and the fact that the majority of mothers who are already on treatment adhere to their regimen [23]. This finding was consistent with research conducted in southern and northcentral Nigeria, which attributed increased enrollment efforts of people living with HIV to care and maintaining continuity of care (14) [24]. This low HIV MTCT rate lends credence to the country's multiple PMTCT programmatic efforts, which ensure that all HIV-positive women are treated and that their children receive prophylaxis[14, 17, 18]. Other studies in Ethiopia and the Democratic Republic of the Congo reported MTCT rates of 7.7% and 16%, respectively [25, 26]. These higher rates could be because both studies were conducted before 2015 when the 'test and treat' paradigm had not yet been implemented in HIV programs and before the scale-up of tenofovir disoproxil, lamivudine, and dolutegravir ART by the PEPFAR program in sub-Saharan Africa.

This study revealed that most of the women started ART before they became pregnant, which may have contributed substantially to the reduction in the MTCT rate. Similar findings were reported in earlier studies carried out in Plateau State [27] and sub-Saharan Africa [28]. This study also revealed a low incidence and prevalence rate of HIV among pregnant women during the study period. Other studies reported a higher HIV prevalence among pregnant women [19, 1]. Methodological differences could explain this, as these studies were carried out in tertiary health facilities as opposed to this study, which included facilities at all levels of care. Despite this positive progress, gaps still exist in antenatal attendance, and case detection

for PMTCT, pediatrics and adolescents is still below the 95-95-95 UNAID target. Further strategies deployed to improve ANC for mothers in the state have a greater chance of improving case finding and decrease the rate of transmission from mother to child [10].

Infants of mothers who had assisted reproductive technology (ART) initiation before conception had a lower risk of contracting HIV. Similar findings were reported in Kenya and southeast Nigeria [24, 29]. This further highlights the importance of the prepregnancy initiation of ART and supports the first and second 95% of the UNAIDS goal, which requires that 95% of people living with HIV should know that status and that those who know their status should be in care [11]. This implies that HIV case finding should be intensified in the community to enable individuals to know their status.

Mothers of HEIs who were not virally suppressed were more likely to have an infant with positive PCR results at six and eighteen months. This was similar to the findings of a study in Enugu State, Nigeria, and Kinsasha, Democratic Republic of the Congo [26, 15]. This bolsters the importance of a strategic program for identifying cases, early initiation of ART, ART adherence, viral suppression and an undetectable viral load during pregnancy, and the period after delivery (from delivery to six weeks) for PMTCT programs.

Our study revealed that infants who delivered outside a health facility were more likely to be HIV positive than those who delivered in a health facility were. Since PMTCT services in Nigeria and many parts of the world are accessible in facilities with skilled birth attendants present at birth [30]. skilled birth attendants at birth are necessary to reduce the rate of mother–child transmission of HIV. Those who delivered in health facilities received nevirapine, and there were greater odds of having positive infants for those who did not receive nevirapine at birth than for those who received it. This further stresses the need for facility delivery for all women in care. The factors associated with the lack of uptake of nevirapine include delivery outside the health facility, which could be due to distance from the health facility, lack of transportation to the facility, and fear of stigma, among others. Nevirapine uptake at birth is necessary because it is one of the interventions that has helped decrease MTCT, and factors associated with decreased uptake should be addressed.

Limitations

This was a retrospective review of records; the reliability of the recorded data could not be ascertained, and potential bias was associated with poor documentation. Data collected in clinical settings may only account for clients who presented to medical facilities.

Conclusion

Our study revealed a low prevalence of MTCT, buttressing the impact of the PMTCT scale-up program. We found that pre-pregnancy ART initiation, ART medication adherence, nevirapine prophylaxis, gravidity, maternal viral load suppression, and facility type were important determinants of MTCT. Further knowledge of the socioeconomic and cultural factors that contribute to defaulting PMTCT, as well as the deployment of effective interventions to track and retain infants in PMTCT, is needed. Eliminating MTCT will require tremendous efforts by all involved to scale up treatment coverage and PMTCT in facilities and communities.

Ethical Considerations

The study utilized secondary data from the HIV program in Plateau State. The State Ministry of Health granted permission, and ethical approval was obtained from the Jos University Teaching Hospital Health Research and Ethical Review Committee. The article was reviewed by the US Centers for Disease Control and Prevention’s human research protection procedures, and this project was determined to be non-research.

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Conflict of Interest

The authors declared no conflict of interest

Disclaimer

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