

# HIV Status Disclosure Rate to a Sexual Partner, Associated Factors and Outcomes among Pregnant Women in PMTCT Care in Two Large HIV Facilities in Abuja, Nigeria

Prosper Okonkwo<sup>1,2</sup> , Oluseye Ajayi<sup>3\*</sup> , Ojukwu Chinonso Nnenna<sup>2</sup>, Abiodun Isah<sup>4</sup>

<sup>1</sup>Program Department, APIN Public Health Initiatives, Abuja, Nigeria

<sup>2</sup>Community Medicine Department, Bingham University, Karu, Nigeria

<sup>3</sup>Prevention and Community Service Directorate, APIN Public Health Initiatives, Abuja, Nigeria

<sup>4</sup>Clinical Service Directorate, APIN Public Health Initiatives, Abuja, Nigeria

Email: pokonkwo@apin.org.ng, \*oajayi@apin.org.ng, adaobiojuks@gmail.com, aisah@apin.org.ng

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## Abstract

HIV status disclosure to partners is critical in improving the health and well-being of mother-infant dyad in the prevention of HIV transmission from mother to child (PMTCT) program. This study assesses the HIV disclosure rate to intimate partners, associated factors, and outcomes among women in the PMTCT program in two large HIV clinics in Abuja, Nigeria. A descriptive cross-sectional study employed a multi-stage sampling technique in selecting 220 pregnant women enrolled in PMTCT care in two clinics. Outcomes measures include HIV status disclosure to intimate partner, women's viral suppression status (suppressed < 1000 copies/mL, unsuppressed  $\geq$  1000 copies/mL), and previous MTCT experience. Exposure variables include the participant's socio-demographic characteristics and HIV care history. Data were presented using frequency tables. Simple and multivariate logistic regression was done to ascertain the predictors of HIV status disclosure and assess the association between HIV disclosure, viral suppression, and MTCT experience at a p-value of less than 0.05. Only 205 (96.7%) entries were completed and analyzed. A larger percentage of the participants were married women, 158 (77.1%), within the age group 26 - 35 years (53.3%). Women's HIV status disclosure rate to intimate partners was 49.3% (101/205). Factors associated with HIV disclosure rate to intimate partners at the univariate level were the participant's age, Christian religion [COR: 1.80, 95%CI: 1.04 - 3.21,  $p = 0.04$ ], full employment [COR: 1.92, 95%CI: 1.10 - 3.34,  $p = 0.02$ ], HIV positivity prior to PMTCT

enrollment [COR: 2.88, 95%CI: 1.26 - 6.59,  $p < 0.01$ ], duration on antiretroviral therapy [COR: 1.07, 95%CI: 1.01 - 1.13,  $p = 0.03$ ], and knowledge of partner's HIV status [COR: 0.20, 95%CI: 0.08 - 0.51,  $p < 0.01$ ]. Only HIV positivity prior to PMTCT enrollment [AOR: 3.27, 95%CI: 1.23 - 8.70,  $p < 0.01$ ] and awareness of the partner's HIV status, [AOR: 0.17, 95%CI: 0.06 - 0.49,  $p < 0.01$ ] were significant predictors of HIV status disclosure after controlling for confounder. The two study outcomes; women's viral suppression and MTCT experience were not significantly associated with participants' HIV status disclosure to intimate partners. Our study shows that HIV disclosure to intimate partners is still a big challenge among pregnant women in PMTCT settings in Nigeria, with awareness of the partner's HIV status and the type of patient enrollment in the PMTCT setting being the two strong predictors of pregnant women's HIV disclosure status to partners.

### Keywords

HIV Status Disclosure, Intimate Partner, PMTCT, Pregnant Women

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## 1. Background

Nigeria accounts for 90 percent of pregnant women living with HIV globally [1], with mother-to-child HIV transmission (MTCT) rate of 26.9% as of 2017 [1]. In Nigeria, one child is infected with HIV every 30 minutes, making it the country with the highest number of children and adolescents aged 0 - 19 years living with HIV globally [2].

Disclosure of HIV status to a sexual partner has been identified as an important prevention strategy to ensure that pregnant women stay healthy, prevent HIV transmission to infants, and reduce new pediatric infections globally [3] [4]. Studies show that disclosure of HIV status promotes HIV risk reduction practice and partner's HIV testing, increases intention and utilization of PMTCT services, improves adherence to clinic visits and antiretroviral therapy, and overall reduces the mother-to-child HIV transmission rate [5] [6] [7] [8]. A study done in Tanzania among the general PLHIV population reported an 85% and 90% lower likelihood of poor drug adherence and virologic failure among participants who disclosed their HIV status compared to those who did not disclose [9]. Furthermore, a similar study done among the pregnant women sub-population reported a higher viral load suppression rate among newly identified HIV-positive women who fully disclosed their status to their male partners compared to those who did not disclose [10]. In Nigeria, the HIV status disclosure rate among HIV-infected pregnant women ranges between 60% and 90%, with a lower disclosure rate among newly identified positives in antenatal care; compared with existing positive patients who became pregnant [11] [12] [13]. A systematic review of literature in Africa including Nigeria reported a pooled estimate of 67% (range of 5% and 97%) for disclosure rates to any person and a pooled estimate of 64% (range of

30 to 93%) for disclosure rates to male partners [14].

Gender inequities rooted in the patriarchal nature of African society are key deterrents to HIV status disclosure among women including the pregnant category. HIV-infected women in Africa are confronted with fear of accusations of infidelity by a partner or community, abandonment, discrimination, and violence resulting from their HIV status disclosure to partners and families [13] [15]. A systematic review of reported intimate partner violence in Tanzania showed that about 3.5% to 14.6% of women who disclosed their HIV status to their partner in Africa experienced negative reactions including violence from their intimate partners [16]. A similar study in Kenya showed that one-third of HIV-infected women who disclosed their status to their partners experienced physical and emotional violence [17]. Other socio-demographic and HIV care factors associated with HIV status disclosure among women in Nigeria are Gender, employment status, educational level, marital status, duration of marriage, knowledge of partner status, and duration of infection [18] [19].

Considering the importance of disclosure in reducing the mother-to-child transmission of HIV, it is paramount to assess its rate, associated factors, and outcomes in Nigeria as the country strives to eliminate MTCT through the national PMTCT scale-up. This study aims to assess the HIV disclosure rate among pregnant women in PMTCT settings in two large health facilities in the federal capital territory of Nigeria and assess the associated factors and outcomes of HIV status disclosure among these women.

## 2. Method

### 2.1. Study Design

A descriptive cross-sectional design aimed at assessing the rates, associated factors, and outcomes of HIV status disclosure to sexual partners among HIV-positive pregnant women in PMTCT care in two large health facilities in Abuja, Federal Capital Territory, Nigeria.

### 2.2. Study Location

The study was conducted in the city of Abuja, Nigeria. Abuja is the fastest-growing metropolitan city in Nigeria with a projected population of 3,839,646 and an annual growth rate of 5.15% as of 2023 [20]. It is the administrative and political capital of Nigeria. It is located in the Northcentral region of Nigeria [20]. The city is a large immigrant community comprising people of all tribes and ethnic groups. About half of the city residents are Muslims, 40% are Christian, and the remainder follows other religions. The official language of the city is English [20]. Abuja has six area councils seated on a land mass of 7290 km<sup>2</sup> [21]. According to the National Census 2006, 47.9% of Abuja's population are females, with approximately 50% of them being within the reproductive age group [22]. Based on the National Demography and Health Report 2018, the mean age at first sexual exposure in the city is 18.2 years, with a total fertility rate

of 4.3%. [23]. According to the National AIDs Indicator Survey (NAIIS), the prevalence of HIV in Abuja is 1.4% [24]. Abuja has 595 health facilities; 487 PHFs, 100 SHFs, and 8 THFs [25]. The city has 180 comprehensive ART sites and 108 standalone PMTCT sites providing PMTCT services under the US PEPFAR HIV program in Nigeria.

### **2.3. Sampling Technique and Study Participants Recruitment**

A total of 220 pregnant women who enrolled for PMTCT care in the two selected health facilities in Abuja were studied. The sample size was calculated using Cochran's sample size formula for a single proportion with a normal standard deviation of 1.96 for a 95% confidence interval, a margin of error of 0.05, and an HIV disclosure rate of 90.4% among pregnant women in Nigeria [11]. The calculated sample size was multiplied by 1.5 to cater for the clustering effect at area council and facility levels. Participants were selected using a multistage sampling technique. Two area councils, Abuja Municipal Area Council and Bwari Area Council were selected using simple random sampling from a sampling frame consisting of all area councils in Abuja. A list of all comprehensive ART sites in each of the area council was generated and one facility was selected per area council; Maitama District Hospital and Kubwa General Hospital. Sample sizes were apportioned to each facility using proportionate allocation to size, considering the average antenatal (ANC) number in each facility. Lastly, a systematic sampling technique was employed to select study participants in each of the facilities, with the apportioned sample size for the facility as the numerator and the expected number of PMTCT clients booked for appointment during the data collection period in each facility as the denominator for computation of the  $k$ th interval.

### **2.4. Assessment Tools and Data Collection Procedure**

Data were collected using a pre-tested self-administered, semi-structured questionnaire. The questionnaire had 3 parts: the first part elicited information on the sociodemographic characteristics of the participants, and the second part elicited information on HIV status disclosure to intimate factors, HIV care, and treatment outcome history. The primary outcomes for this study include 1) HIV disclosure status to intimate partner measured using the question "Have you disclosed your HIV status to your intimate sexual partner, with a dichotomous response "Yes" or "No", 2) Women's viral suppression status with suppressed defined as viral load count < 1000 copies/mL and unsuppressed as viral load count  $\geq$  1000 copies/mL and lastly, 3) MTCT experience assessed using the question "Do you have any biological children with positive HIV status" with a dichotomous response of "Yes" or "No". Data were collected by the study investigator, with support from a trained research assistant. This study was done between October 2022 to July 2023, with data collection done between January to March, 2023.

## 2.5. Data Analysis

Data cleaning and analysis were done using Statistical Package for Social Sciences (SPSS) IBM version 23. Descriptive findings were presented using charts and tables. Factors associated with the study outcomes were examined at the univariate and multivariate levels using a logistic regression model with the level of statistical significance set at 0.05.

## 2.6. Ethical Consideration

Informed consent was obtained from all patients who participated in the study, evidenced by signed consent forms. Ethical approval for the study was obtained from the Bingham University Ethical Board. In addition, the study complied with the Declaration of Helsinki on conducting research among human subjects.

## 3. Result

### 3.1. Background Characteristics

A total of 220 pregnant women were approached to participate in the study. Two hundred and twelve accepted (96.4%), while 8 declined participation due to time constraints. Only 205 (96.7%) entries were analyzed. Participants who did not respond to key outcome and exposure variables were excluded from the analysis. No statistically significant differences were observed in the distribution of key exposure variables between the missing and non-missing data. A larger percentage of the participants were married women, 158 (77.1%), within the age group 26 - 35 years, 109 (53.2%), and were existing HIV-positive clients who enrolled for the PMTCT program, 168 (84.0%). The majority knew their intimate partner's HIV status, 174 (84.9%) (**Table 1**).

### 3.2. Disclosure Rate and Associated Factors

One hundred and one (49.3%) reported that they have disclosed their HIV status to their intimate sexual partner (**Table 2**). The probability of HIV status disclosure was obtained to be higher among participants in the age group of 26 - 35 years [Crude Odd Ratio (COR): 2.78, 95%CI: 1.02 - 7.59,  $p = 0.046$ ] and age group 36 - 45 years [COR: 3.54, 95%CI: 1.25 - 10.02,  $p = 0.02$ ], when compared to age group 16 - 25 years. Furthermore, there is higher likelihood of HIV disclosure among Christians compared to Muslims [COR: 1.80, 95%CI: 1.04 - 3.21,  $p = 0.04$ ], employed participants compared to unemployed [COR: 1.92, 95%CI: 1.10 - 3.34], among existing HIV clients in PMTCT compared to newly identified HIV positive clients in PMTCT [COR: 2.88, 95%CI: 1.26 - 6.59,  $p < 0.01$ ] settings and with increase in duration on antiretroviral therapy [COR: 1.07, 95%CI: 1.01 - 1.13,  $p = 0.03$ ]. There was also a lower likelihood of HIV disclosure among those who did not know their partner's HIV status when compared with those who knew their partner's HIV status [COR: 0.20, 95%CI: 0.08 - 0.51,  $p < 0.01$ ]. Other factors such as marital status, parity and respondents' level of education were not found to predict respondent's HIV disclosure status at univariate level (**Table 3**).

**Table 1.** Participants background characteristics.

Variable(s)	Frequency	Percent
<b>Age Group (Completed Years)</b>		
16 - 25	23	11.2
26 - 35	109	53.2
36 - 45	72	35.1
46+	1	0.5
<b>Total</b>	<b>205</b>	<b>100.0</b>
<b>Marital Status</b>		
Married/Cohabiting	158	77.1
Single (Never Married)	37	18.0
Divorced/Separated	10	4.9
<b>Total</b>	<b>205</b>	<b>100.0</b>
<b>Highest Educational Level</b>		
No Education	3	1.4
Completed Primary Education	18	8.8
Completed Secondary Education	58	28.3
Completed Tertiary Education	126	61.5
<b>Total</b>	<b>205</b>	<b>100.0</b>
<b>Religion</b>		
None	1	0.5
Christianity	131	63.9
Islam	73	35.6
<b>Total</b>	<b>205</b>	<b>100</b>
<b>Employment Status</b>		
Unemployed	102	49.8
Employed	103	50.2
<b>Total</b>	<b>205</b>	<b>100.0</b>
<b>Parity</b>		
0	27	13.2
1 - 2	125	61.0
3 - 4	44	21.4
5+	9	4.4
<b>Total</b>	<b>205</b>	<b>100.0</b>
<b>PMTCT Category</b>		
Newly Identified Positive Client	32	16.0
Known HIV Positive Client	168	84.0
<b>Total</b>	<b>200</b>	<b>100.0</b>

**Continued****Viral Load Count**

Suppressed	157	95.2
Unsuppressed	8	4.8
<b>Total</b>	<b>165</b>	<b>100.0</b>

**Are you aware of your intimate partner's HIV status?**

Yes	174	84.9
No	31	15.1
<b>Total</b>	<b>205</b>	<b>100.0</b>

**Average duration on ART [Median (IQR)]**

4 years (IQR: 1 - 9 years)

**Table 2.** Participants' HIV disclosure status to sexual partners.

HIV disclosure status	Frequency	Percent
Yes	101	49.3
No	104	50.7
<b>Total</b>	<b>205</b>	<b>100.0</b>

**Table 3.** Factors associated with participants' HIV status disclosure at univariate and multivariate levels.

Variable(s)	Crude OR	Adjusted OR
<b>Age Group (In completed years)</b>		
20 - 25	1	
26 - 35	<b>*2.78 (1.02 - 7.59)</b>	2.11 (0.72 - 6.22)
36 - 45	<b>*3.54 (1.25 - 10.02)</b>	2.26 (0.73 - 6.98)
46+	0.00	0.00
<b>Marital Status</b>		
Married/Cohabiting	1	
Single (Never Married)	0.54 (0.26 - 1.12)	
Divorced/Separated	0.38 (0.09 - 1.51)	
<b>Highest Level of Education</b>		
No Education	1	
Completed Primary Education	0.25 (0.02 - 3.34)	
Completed Secondary Education	0.54 (0.05 - 6.24)	
Completed Tertiary Education	0.50 (0.04 - 5.66)	
<b>Religion</b>		
Islam	1	1
None	0.00	0.00
Christianity	<b>*1.80 (1.04 - 3.21)</b>	1.23 (0.63 - 2.39)

**Continued****Employment Status**

Unemployed	1	1
Employed	<b>*1.92 (1.10 - 3.34)</b>	1.58 (0.84 - 2.97)

**Parity**

0	1
1-2	1.34 (0.58 - 3.12)
3-4	1.75 (0.66 - 4.61)
5+	2.91 (0.60 - 14.19)

**PMTCT Category**

Newly Identified Positive Client	1	1
Known HIV Positive Client	<b>*2.88 (1.26 - 6.59)</b>	<b>*3.27 (1.23 - 8.70)</b>

**Are you aware of your intimate partner's HIV status?**

Yes	1	1
No	<b>*0.20 (0.08 - 0.51)</b>	<b>*0.17 (0.06 - 0.49)</b>

<b>Duration of ART Treatment (In Years)</b>	<b>*1.07 (1.01 - 1.13)</b>	1.01 (0.94 - 1.08)
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\*Statistically significant at p of less than 0.05.

Furthermore, factors that were significant during univariate analysis at p-value of 0.05 were introduced into a multivariate logistic model to adjust for confounders. Only type of PMTCT clients and participant's awareness of partner's HIV status were found to be significant. Previously known HIV participants prior to pregnancy were three times more likely to disclose their HIV status to their intimate partner compared to those newly identified in the current pregnancy [Adjusted Odd Ratio (AOR): 3.27, 95%CI: 1.23 - 8.70,  $p < 0.01$ ]. In addition, those who were not aware of their partner's HIV status have 83% lower likelihood of disclosing their HIV status to their intimate partner when compared to those who were aware of their partner's HIV status [AOR: 0.17, 95%CI: 0.06 - 0.49,  $p < 0.01$ ] (**Table 3**).

### 3.3. Association between HIV Disclosure Status and Study Outcomes

Lastly, the HIV suppression rate and MTCT rate among those who reported HIV disclosure status to intimate partners were 47.8% and 51.4% respectively. Although, there is no statistically significant association between the participants' HIV disclosure status and the participant's HIV viral suppression, our study showed higher HIV disclosure rate among those who were HIV virally suppressed compared those who were unsuppressed [Virally suppressed: 47.8%; Virally unsuppressed: 25.0%,  $p = 0.23$ ]. Similarly, no significant association was observed between participant's HIV status disclosure to partner and participant's experience of mother-to-child transmission of HIV [ $p = 0.35$ ] (**Table 4**).

**Table 4.** Association between HIV disclosure status and study outcomes.

Variable (s)	Have you disclosed your HIV status to your intimate partner?		Total	Statistical Indices
	No	Yes		
<b>HIV viral suppression status</b>				
Suppressed	82 (52.2)	75 (47.8)	157	1
Unsuppressed	6 (75.0)	2 (25.0)	8	COR = 2.74, p = 0.23
<b>Previous HIV MTCT experience</b>				
Yes	70 (48.6)	74 (51.4)	144	1
No	34 (55.7)	27 (44.3)	61	COR = 1.33, p = 0.35

## 4. Discussion

### 4.1. Disclosure Rate to Intimate Partner

This study purposed to better understand the HIV disclosure rate to intimate partners among HIV-infected pregnant women in the PMTCT setting, and its associated factors and outcomes. In this study, 49.3% of the study participants disclosed their HIV status to their intimate partner. This is slightly low to 57% and 59% HIV status disclosure rate to intimate partners reported among pregnant women in PMTCT settings in Uganda and South Africa respectively [3] [4], and very low to rates of 85% in Odiachi *et al.* study done in rural areas of Nasarawa State and Abuja, Nigeria [13]. While our study was done in two large secondary health facilities in urban centers in Abuja, the Odiachi study was done majorly in primary health facilities in a rural center in Abuja and Nasarawa. However, the lower rate reported in urban health facilities where our study was done is not comparable to previous studies that showed higher disclosure rates in urban settings compared to rural settings [4] [26].

### 4.2. Factors Associated with HIV Disclosure to Intimate Partner

Factors associated with participants' HIV status disclosure at a univariate level in this study were the participant's age, awareness of the partner's HIV status, the PMTCT enrollment type of the participants, the duration of ART use, participant's religion, and employment status. There was a higher probability of disclosure in older participants in the age group 26 - 35 years and 36 - 45 years compared to those in the age group 16 - 25 years. This finding is similar to a study finding in Tanzania that showed higher disclosure among women  $\geq 25$  years compared to those below 25 years [4] [27]. This is in keeping with popular reasoning that age confers maturity in handling complex issues. Similar to Subulade *et al.* [19], and Bulterys *et al.* [28] findings, our study also shows that women who were aware of their partner's HIV status had a higher likelihood of disclosing their HIV status to their partner than their counterparts who were not aware. This emphasizes the importance of the partner's openness in improving HIV disclosure in the PMTCT setting, programs that promote communication

between couples such as couple counseling and testing should be prioritized in improving HIV disclosure in the PMTCT setting.

The study findings also confirm those of previous studies that existing HIV clients enrolled in PMTCT [13] [26] and longer duration of initiation on ART [29], confer a higher likelihood of HIV disclosure status among HIV-infected women in PMTCT setting. This is not surprising, as women stay longer duration in HIV care services, the better their understanding of HIV care services including disclosure, and the higher the possibility of being integrated into HIV support groups and mentor programs that help them navigate the process of HIV status disclosure.

Our study shows that awareness of partner's HIV status and the patient enrollment type in the PMTCT setting were the two strong predictors of pregnant women's HIV disclosure status to partners in the PMTCT setting, both at the univariate and multivariate level after adjusting for confounders. This has strong program implications in terms of improving communication and status disclosure in the PMTCT setting through the promotion of male involvement and couple counseling. There might also be a need to strengthen adherence counseling and mentoring support for newly identified HIV clients in PMTCT settings as a measure to support HIV status disclosure in them.

### **4.3. Association between HIV Disclosure Status and Study Outcomes**

Rapid and sustained viral suppression has been described as an objective measure of antiretroviral drug adherence [30] [31], and the assumption is that any strategy that improves drug adherence should impact HIV viral suppression. Previous literature has shown HIV status disclosure as a significant predictor of ARV adherence both in the general population and in the PMTCT setting [32] [33], but its association with HIV viral suppression varies across studies. In our study, there was no significant difference in the suppression rate among participants who disclosed their HIV status to intimate partners and those who did not disclose. This is similar to Brittain *et al.* findings on the relationship between HIV status disclosure and viral suppression among pregnant women who tested positive for HIV before pregnancy (known HIV-positive clients) [10]. Brittain however reported a significant association between HIV status disclosure and viral suppression among newly identified HIV-positive pregnant women in PMTCT settings. Noteworthy is that the majority (84%) of our study population are known HIV-positive clients, and this could have been responsible for the relationship observed between the status disclosure and viral suppression. This assumption might be disproved by a similar study done by Ramadhani *et al.* in Tanzania which reported a significant difference in virologic failure among known HIV-positive clients who disclosed their HIV status to someone compared to those who did not disclose [9]. Of note is that the Tanzania study was done among the general population and not pregnant women, and the disclosure was not specific to intimate partners. Furthermore, our study was done in

only two health facilities in an urban city. A location that may be biased with clustering of people of high educational level and socio-economic status. Therefore, our study findings might be reflective of what is obtainable in the high socio-economic class sub-population and not the general population.

Lastly, our study shows no significant association between HIV status disclosure to intimate partners among pregnant women and the MTCT experience. This is in contrast to the findings from two large cross-country surveys in Zambia and Kenya that reported a significant reduction in HIV acquisition among infants of mothers who disclosed their HIV status to intimate partners compared to those who did not disclose [34] [35]. Noteworthy is that the two studies in Kenya and Zambia are cross-country studies with large sizes. Our study might be limited in sample size to determine the association between HIV status disclosure and MTCT experience. We would recommend a cross-country survey in Nigeria to examine the association between HIV status disclosure to intimate partners in a PMTCT setting and MTCT experience.

Our study though informative, has some limitations. The cross-sectional approach utilized in this study limits causal inferences and assessment of temporality between HIV status disclosure and the study outcomes. One could not ascertain if the viral suppression and the mother-to-child transmission of HIV occurred before or after HIV status disclosure. Information on some other third variables that could influence the study outcomes *i.e.* such as ART regimen the patient is taking, uptake of postnatal prophylaxis, and so on, were not elicited. Also, the timing of disclosure about the study outcome was not elicited.

## 5. Conclusion

In conclusion, our study shows that HIV disclosure to intimate partners is still a big challenge among pregnant women in PMTCT settings in Nigeria. We identified two strong predictors of pregnant women's HIV disclosure status to partners, both in univariate and multivariate analyses: awareness of the partner's HIV status and the type of patient enrollment in the PMTCT setting. Lastly, our study shows no significant association between HIV status disclosure to intimate partners among participants and viral load suppression or MTCT experience.

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## Authors' Contributions

The study was conceptualized by Dr. Prosper Okonkwo with inputs from Oluseye Ajayi and Ojukwu Chinonso Nnenna. Data collection was conducted by Ojukwu Chinonso Nnenna. Data analysis and interpretation were carried out by Oluseye Ayodele Ajayi. All authors contributed to writing the draft of the manuscript. The final manuscript was reviewed and approved by all authors.

## Data Availability

The survey data is available upon reasonable request.

## Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

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## Appendix: Questionnaire

Q ID	Questions	Responses	Skip Pattern
<b>A PARTICIPANT INFORMATION</b>			
001	Participant Unique ID	<input type="text"/> <input type="text"/> <input type="text"/>	
002	Date of Informed Consent	<input type="text"/> <input type="text"/> / <input type="text"/> <input type="text"/> / <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>	
003	Age at last birthday (years)	<input type="text"/> <input type="text"/> <input type="text"/>	
004	Which category best describes your age at last birthday?	<input type="checkbox"/> <20 <input type="checkbox"/> 21 - 25 <input type="checkbox"/> 26 - 30 <input type="checkbox"/> 31 - 35 <input type="checkbox"/> 36 - 40 <input type="checkbox"/> 41 - 45 <input type="checkbox"/> >46	
005	Which of these religious group do you most identify with?	<input type="checkbox"/> Islam <input type="checkbox"/> Christianity <input type="checkbox"/> Other (Specify).....	
006	Employment:	<input type="checkbox"/> Not Working (Support from Someone Else) <input type="checkbox"/> Pupil/Student (Support from Someone Else) <input type="checkbox"/> Employed <input type="checkbox"/> Retired <input type="checkbox"/> Other (Specify).....	
007	If employed, what is your occupation?	<input type="checkbox"/> Professional <input type="checkbox"/> Self-employed business man/woman <input type="checkbox"/> Entertainment/Service/Bar/Restaurant/Hotel <input type="checkbox"/> Driver/Labourer <input type="checkbox"/> Uniformed armed service <input type="checkbox"/> Other (Specify).....	Skip if a or b to Q006
008	Relationship Status:	<input type="checkbox"/> Married <input type="checkbox"/> Single (Never Married) <input type="checkbox"/> Divorced <input type="checkbox"/> Separated <input type="checkbox"/> Cohabiting <input type="checkbox"/> Widow <input type="checkbox"/> Other (specify).....	
009	How Long Have You Been in your current Relationship? (Years)	<input type="checkbox"/> 0 - 4 <input type="checkbox"/> 5 - 9 <input type="checkbox"/> 10 - 14 <input type="checkbox"/> >=15	Skip if b to Q008
010	How Many Children Do You Have?	<input type="checkbox"/> 0 <input type="checkbox"/> 1 - 2 <input type="checkbox"/> 3 - 4 <input type="checkbox"/> >=5	
011	How Many Pregnancies did you Have Before Discovering your Positive Status?		
<b>B Study Outcome—Disclosure Status and MTCT experience</b>			
101	Have you disclosed your HIV status to your intimate partner?	<input type="checkbox"/> Yes <input type="checkbox"/> No	
102	Do you know your partner HIV status	<input type="checkbox"/> Yes <input type="checkbox"/> No	
103	If yes, what is your intimate partner's HIV status?	<input type="checkbox"/> Positive <input type="checkbox"/> Negative	Skip if Q102 is No
104	Is your partner currently on ART?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Don't Know	Skip if Q103 is Negative
105	Do you need authorisation from your partner to go to the hospital for PMTCT services?	<input type="checkbox"/> Yes <input type="checkbox"/> No	
106	Do you have any biological children with positive HIV status?	<input type="checkbox"/> Yes <input type="checkbox"/> No	
107	How many of your children are HIV positive?	_____ Type in.	Skip if Q106 is no

**Continued**

**C Participant's HIV/PMTCT Care History**

201 Date of HIV diagnosis (Confirmation). **D D M M Y Y Y Y**  
*Hint: Type 9999 if don't know*   /   /

202 Date of ART Initiation **D D M M Y Y Y Y**  
*Hint: Type 9999 if don't know, or 8888 if not on ART*   /   /

203 Where you newly diagnosed of HIV in this current pregnancy or you are an existing ART client?  
 Newly diagnosed in this pregnancy, but yet to be initiated on ART  
 Newly diagnosed and initiated on ART in this pregnancy  
 Previously diagnosed of HIV prior to this pregnancy, however I was newly initiated on ART in this pregnancy  
 I have been diagnosed of HIV and initiated on ART prior to this pregnancy

204 Duration on ART (In Years) *Enter "0" if less than 1 year* \_\_\_\_\_

205 Duration on ART (In Months) \_\_\_\_\_ Skip if Q204 ≥ 1

206 At what pregnancy month did you register for ANC/PMTCT care in this current pregnancy?  
*Enter 99 if don't know* \_\_\_\_\_

207 What is gestational age today? (In Month) \_\_\_\_\_

208 Did you receive HIV counselling and testing in this pregnancy?  
 Yes, counselling only (for known positive clients)  
 Yes, I received HIV counselling and testing  
 Yes, counselling only (for known positive clients)  
 No

209 What type of pre-test counselling did you receive?  
 Individual Counselling Skip if Q208 is no.  
 Group Counselling

210 Did you receive a follow-up counselling?  Yes  No

211 Before commencing PMTCT, was adherence counselling done?  Yes  No

212 Have you ever missed taking your medicines in the past month?  Yes  No

213 Reasons for the missed medication?  
 Religious reasons  
 Too busy to pick up drugs  
 Forget to take medicine  
 Felt better  
 Felt overwhelmed and depressed  
 Other reasons (Specify \_\_\_\_\_)

214 Date of last viral load testing **D D M M Y Y Y Y**  
*Enter 9999 if can't remember/ don't know.*   /   /

215 What is the viral load count? \_\_\_\_\_

## Continued

**D Knowledge and Perception of HIV/AIDS and PMTCT**

- 301 Where did you first hear about PMTCT from? (Select one only)
- Family/Friends     Healthcare Workers
- Mass Media (Radio, Television)
- Social Media (WhatsApp, Instagram, Facebook)
- Other (Specify).....
- 302 Do you think every pregnant woman should be tested for HIV?
- Yes     No     Maybe
- 303 In what ways do you think HIV can be transmitted from mother to child? (Tick all that apply)
- HIV can be transmitted during pregnancy
- HIV can be transmitted during delivery
- HIV can be transmitted during breastfeeding
- Don't know
- 304 How do you think HIV transmission from mother to child can be prevented?
- Antiretroviral therapy before pregnancy (when status was confirmed)
- Antiretroviral therapy during pregnancy
- Delivering by caesarean section
- Giving antiretroviral drugs to the new-born
- Don't know
- 305 Do you know the main test done to check if your treatment is working? (Tick all that apply)
- CD4 Testing     Repeat HIV Testing     Viral Load Testing
- Don't know
- 306 Do you think it is advisable for a HIV-positive woman to breastfeed?
- Yes     No     Don't Know
- 307 If yes, what is your reason for selecting Yes?
- Women can breastfeed only if they are virally suppressed.
- Women can breastfeed if they are not virally suppressed.
- Women can breastfeed only if it is exclusive breastfeeding and they are virally suppressed.
- Don't know

Skip if Q306  
is No or  
Don't know

**End of Interview. Thanks for your time.**