

# Family Characteristics and Determinants of HIV-Status Disclosure of HIV-Clients in a Rural Tertiary Hospital in Southern Nigeria

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## Abstract

## Original Research Article

**Introduction:** HIV/AIDS is still a major cause of morbidity and mortality in Nigeria. Outcomes of HIV care and support are dependent on disclosure of status to caregiver. The best caregivers are usually family members. The study therefore aimed at determining the family characteristics and determinants of status disclosure among HIV-clients of a tertiary hospital in southern Nigeria.

**Methodology:** A descriptive cross-sectional study conducted at Antiretroviral clinic of Irrua Specialist Teaching Hospital, Irrua, Southern Nigeria. A structured-questionnaire containing sociodemographic, family and clinical characteristics of participants was administered on 230 consented PLHIV who met the inclusion criteria for the study. Frequency distribution tables of variables were generated. Statistical comparison of variables was done using the Chi-squared test for categorical variables, while Students' 't' test and analysis of variance for continuous variables. A p-value of <0.05 was considered statistically significant.

**Result:** Majority, 168 (73.0%) participants were females and the remaining participants, 62 (27.0%) were males. One hundred and thirty eight (138; 60%) were married, 47 (20.4%) were either widows or widowers and 26 (11.3%) were singles having sexual partners. Of the remaining participants, 14 (6.1%) were separated from their spouses, while 3 (1.3%) and 2 (0.9%) were Cohabitors and Divorcees respectively. One hundred and sixty-eight (73.1%) participants were aware of their partner's HIV status, while 62 (26.9%) were ignorant of their partner's HIV status. Eighty-two (48.8%) participants had HIV-Concordant partners, 86 (51.2%) participants' partners are HIV-Discordant partners. The predictors of HIV disclosure among the participants were knowledge of HIV-status of partner (odd ratio of 12.44) and marital status (odds ratio of 7.213).

**Conclusion:** Most PLHIV in the area are married. Married individuals have greater propensity to disclose to their spouse. Knowledge of one's partner HIV-status and positive-concordant status highly increased the chances of disclosure to partners in any union.

**Keywords:** HIV, HIV-status, Disclosure, Family characteristics.

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## INTRODUCTION

Human Immunodeficiency virus (HIV) infection and Acquired Immune Deficiency (AIDS) remain global priority diseases since discovery about 5 decades ago.<sup>1</sup> About 39.9 million people are living with HIV as at the end of 2023.<sup>2</sup> HIV is a global leading cause of morbidity and mortality due to communicable disease, especially in Sub-Saharan Africa, where majority of People living with HIV (PLHIV) reside.<sup>2</sup> Nigeria harbors a total of about 2 million PLHIV and about 75,000 new infections yearly, as at 2023.<sup>3</sup> South-south geopolitical zone of Nigeria has the highest prevalence of HIV (3.1%) in the country; which is more than double the National prevalence of 1.4%.<sup>3</sup> Hence, Nigeria HIV/AIDS control/elimination must focused on this zone, especially in rural communities, where awareness, knowledge, attitude and practices of HIV prevention and control is lowest.<sup>4</sup> Edo state of Nigeria, has the 4<sup>th</sup> highest prevalence in the country and second only to River state in the South-south geopolitical zone of the country.<sup>4</sup>

The introduction, use of, and adherence to combined Antiretroviral therapy (ART) has significantly improved the quality of life and life expectancy of PLHIV.<sup>5,6</sup> It has also makes HIV/AIDS a chronic disease with markedly reduced mortality rate.<sup>5,6</sup> Furthermore, Prevention of Mother to Child transmission (PMTCT) using ART and non-ART interventions facilitates procreation and nurturing of HIV-free children by HIV-infected parents.<sup>7</sup> Consequently, PLHIV are becoming more comfortable to marry, raise children and even willing to remaining in HIV-infected family.<sup>8</sup> There are two types of HIV-infected families, namely; Seroconcordant and serodiscordant families. The first is one where both partners are HIV-infected, while the other has one partner HIV-infected. In both cases, HIV infection may occur prior to marriage or after marriage.

In Africa, including Nigeria, Heterosexual contacts is still the commonest route of HIV transmission.<sup>9</sup> PLHIV are perceived as promiscuous, hence stigmatized. Most African societies and Nigeria permit polygyny and not polyandry form of

polygamy. Therefore, women with multiple sexual partners are considered social deviants and face worse consequences, like social persecution, discrimination and stigmatization than their male counterparts.<sup>6</sup> Many women living with HIV face divorce, abandonment, social neglect and financial/economic challenges.<sup>6</sup> They often lack needed social support required for good quality of life.<sup>5,6</sup> This markedly affects their clinical, immunologic and virologic outcomes to HIV infection. Many marriages and homes had wrecked because of HIV-status discordancy and HIV-status disclosure to partners in Sub-Saharan Africa.<sup>10</sup> Despite advocacies against stigmatization and discrimination of PLHIV, many kept their HIV-status undisclosed for fear of repercussions; since it may affects their marriages, jobs, finances, social relationships and so on.<sup>10</sup>

HIV, like many other chronic illnesses, depend on good social support and caregivers, especially close family members, for better outcome and good quality of life.<sup>5,6</sup> These caregivers provide psychosocial, financial and others supports for the infected persons. They facilitate adherence to medications and clinic attendance; which are very important for improved clinical, immunologic, virology, epidemiologic and therapeutic goals of HIV prevention, treatment and care.<sup>5,6</sup>

To understand the peculiar social dynamics within the family of PLHIV, especially in a rural setting, where knowledge, attitude and practice of acceptance of PLHIV is low, this study aimed at identifying the family characteristics and disclosure patterns of PLHIV attending ART clinic of Irrua Specialist Teaching Hospital, Irrua (ISTH) and their effects on general wellbeing of the people. This will guide in ensuring necessary interventions that can impact positively on the quality of life of PLHIV. The objectives are: to determine family characteristics of PLHIV in ISTH; to ascertain disclosure pattern among PLHIV in ISTH; to elucidate the relationship between the sociodemographic factors and family characteristics of PLHIV in ISTH; to illustrate the relationship between family characteristics and status disclosure;

and to identify association between the family structure and health outcomes of PLHIV in ISTH.

## MATERIALS AND METHODS

### Study setting and design

This study is a descriptive cross-sectional design conducted at the Antiretroviral Therapy (ART) clinic of Irrua Specialist Teaching Hospital (ISTH) Irrua, Edo State, South-south geopolitical zone of Nigeria, with HIV/AIDS prevalence of 3.1%.<sup>11</sup>

### Study population and participants

The study population was PLHIV at the ART clinic of ISTH Irrua. Two hundred and thirty participants on Highly Active Antiretroviral Therapy (HAART), for not less than a year, were recruited by systematic random sampling from the study population. Excluded were patients with pregnancy and co-morbidities such as diabetes mellitus, depression, HIV-encephalopathy, obesity, seizure disorders and hypertension.

### Sample size and sampling technique

The minimum sample size for the study was determined using the formula for proportion;  $n = z^2 pq / d^2$ , where 'n' is the desired sample size, 'z' is the normal standard deviation for the required level of confidence (1.96), 'p' is the estimated prevalence of 83% or 0.83 from a previous study<sup>5</sup> 'q' is 1-p and 'd' is the tolerable margin of error (set at 5% or 0.05). This gave a calculated sample size of 216, which was adjusted (based on 5% attrition rate) to 228, and rounded up to 230 HIV infected adults as sample size for the study.

Eligible participants were consecutively recruited by systematic random sampling till the sample size was obtained. To calculate the k-value (i. e. sampling interval), the total number of adult PLHIV seen during the period of the study was divided by the sample size.

The average number seen per month is 480, therefore, for a study that spanned over 3 months, the k-value was calculated as  $(480 \times 3) / 230$  or 6.26. This made every 6<sup>th</sup> adult participant who meets the eligibility criteria to be recruited for the study. The first participant was selected using a simple random sampling with ballot of numbers one to six. The second and subsequent participants were selected at interval of six. No participant was selected twice.

### Ethical Consideration

Ethical approval was obtained from the Ethical Review Committee of ISTH, Irrua and informed consent was obtained from each participant.

### Data Collection

Data collection was done using a structured-questionnaire, administered on consenting PLHIV who met the inclusion criteria for the study. The questionnaire consisted of information regarding sociodemographic, family and clinical characteristics such as age, sex (gender), marital status, occupation, education level, place of residence, date of first enrolment, CD4 cell count, HIV status of partner, status disclosure, WHO clinical stage, CD4 and viral load of participants.

### Statistical analysis of data

After appropriate verification, the data were transferred into a master sheet and analyzed using IBM SPSS 20.0 software. Data collected from the study questionnaire were entered using numerical codes. Frequency distribution tables of variables were generated. Statistical comparison of variables was done using the Chi-squared test for categorical variables, Students' t' test (comparison of two means) and analysis of variance (comparison of more than 2 means) for continuous variables. A p-

value of  $<0.05$  was considered statistically significant.

## RESULTS

The sociodemographic and family characteristics of the participants are as shown in Table 1 below. The age range of the participants was 20 to 68 years, and the mean age is  $41.13 \pm 9.96$  years. Majority, 168 (73.0%) participants were females and the remaining participants, 62 (27.0%) were males. One hundred and thirty eight (138; 60%) were married, 47 (20.4%) were either widows or widowers and 26 (11.3%) were singles having sexual partners. Of the remaining participants, 14 (6.1%) were separated from their spouses, while 3 (1.3%) and 2 (0.9%) were Cohabiters and Divorcees respectively.

One hundred and sixty-eight (73.1%) participants were aware of their partner's HIV status, while 62 (26.9%) were ignorant of their partner's HIV status. Amongst the 168 who knew their partner's status, eighty-two (48.8%) participants had HIV-Concordant partners, 86 (51.2%) participants' partners are HIV-Discordant partners See Figure 1.

Most of the participants, 134 (58.3%) hid their HIV status from their partners, while the remaining 96 (41.7%) disclosed their HIV status' to their partners. Fifty Percent of male participants disclosed their status, while only 38.69% females disclosed their HIV status to their partners. See table 2.

Clinical profiles of the participants are as shown in Table 3. Using WHO clinical staging, 174 (69.6%) participants were in stage 1, 32 participants (13.9%) were in stage 2, 14 (6.1%) and 10 (4.3%) were in stage 3 and stage 4 respectively. The CD4 cell count of 160 (69.6%) participants was  $\leq 200$  cells/mm<sup>3</sup> while count for the remaining 70 (30.4%) was  $>200$  cells/mm<sup>3</sup>. Concerning duration on HAART, 171 (74.4%) participants had been on the ART drugs for 1-5 years, 58 (25.2%) for 6-10 years, while only 1 (0.4%) had been on the drug for up to 11 years. Two hundred and twenty-four participants (97.39%) had good adherence to antiretrovirals, while only

6(2.61%) had poor adherence to medications (Table 3).

## RELATIONSHIP BETWEEN STATUS DISCLOSURE AND SOME CHARATERISTICS OF PARTICIPANTS

Chi square test was done to determine the impact of some characteristics of the participants on their HIV-status disclosure taking  $p$ -value  $\leq 0.05$  as significant. Age, Educational status, Religion, CD4 count, Duration on HAART, ART adherence and the WHO clinical stage of the participants had no significant relationship with the status disclosure. The participants' characteristics which had significant impact on the disclosure to partners were gender, marital status and partner's HIV status. (see Table 4 below)

## LOGISTIC REGRESSION OF FACTORS ASSOCIATED WITH DISCLOSURE

Logistic regression was performed to assess the impact of significant factors in status disclosure to partners. The model containing all predictors statistically significant to appropriately fit the test,  $\chi^2$  (df = 5;  $N = 230$ ) = 121.6,  $p < 0.0001$ , indicating the model was able to distinguish between respondents who disclosed and those who did not disclose their HIV status to their partners. The model correctly classified the cases as shown in Table 5; two of the independent variables made statistically significant contribution to the model (marital status, and HIV status of partners). The strongest predictor of HIV disclosure among the participants was knowledge of HIV-status of partner with odd ratio of 12.44 indicating that respondents who have partners with known HIV status either negative or positive were 12 times more likely to disclose their HIV status to their partner. In the same manner, marital status with odds ratio of 7.213 means, married participants have seven times likelihood to disclose their status than other participants. The respondents' gender is not a determinant of disclosure.

## DISCUSSION

This study aimed at identifying the family characteristics and pattern HIV-status disclosure of PLHIV attending ART clinic of Irrua Specialist Teaching Hospital, Irrua (ISTH) and their effects on general wellbeing of the people. A total of 230 participants with informed consent were recruited in the study.

PLHIV attending ART Clinic in ISTH are predominantly women. This is in accord with National statistics on HIV having gender disparity revealing prevalence of 1.9% for women, compared to 0.9% for men.<sup>12</sup> Higher female participants may be due to better health seeking behavior of women than men as found in some studies in other centres.<sup>5, 13</sup> Majority of the participants are married and very few were separated from their spouses or divorcees despite their HIV-status. They are mainly Christians within the reproductive age group. This could be due the predominant religion in the study area and due to the choice of Adult ART clinic attendees as the study population.

Seventy three point one percent (73.1%) of the people are aware of the HIV-status of their partners. This is similar to the findings of Subulade et al<sup>10</sup> in 36 health facilities in Edo state, where 71.4% know the HIV-status of their partners. However, his study was on women attending Prevention of Mother to Child transmission (PMTCT) Clinic. In spite of differences in the study populations, preponderance of women participants (73.0%) in this study made the two studies highly comparable; hence the similarity in their findings. There were almost equal concordant and discordant families in the study area, 48.8% and 51.2% respectively. This value is within the Nigeria's National discordant range of around 16.3% to as high as 52% in clinic based studies.<sup>14</sup> This study is further aligning to the national gender disparity of discordance, with women frequently the HIV-positive partner, with studies reporting between 61.5% and 68.1% of index partners being women.<sup>15</sup> Higher preponderance of women can be a multifactorial issues, among which are: cultural practices preventing women from negotiating sex; receptive intercourse and wide surface area of the genitalia

exposed to likely infected semen; higher prevalence of multiple sexual partners among men, which may facilitates a man infecting many women; and better health-seeking behavior of women, making them more in these clinic based studies.<sup>16</sup>

HIV-status disclosure rate in this study is 41.7%. It's far below the national HIV-status disclosure rate, ranging from 60% to 90% among adults PLHIV in previous studies.<sup>10,17,18</sup> This low disclosure rate may be due to the differences in the studied populations. Most studies in Nigeria focused strictly on pregnant women, whereas this study looked at adults living with HIV excluding PMTCT clients. Pregnant women are more dependent and are generally considered vulnerable, needing all possible cares and supports. It is period when women have the best of attention from partners, families and friends. Transgressions and misdemeanors of pregnant women are often overlooked or consequences deferred till postpartum period. It is a period when emotional and physical tortures are prohibited. Hence, women can take advantage of the period to discuss their health challenges, as well as disclosing their HIV-status.<sup>17,18</sup> Furthermore, rate of voluntary counseling testing (VCT) for HIV is higher in pregnancy than other period, as VCT is gradually becoming baseline investigation during antenatal booking. The discovery of HIV-seropositivity as such time is shocking and may drive disclosure to confidants, especially, the father of the unborn child, and hence higher disclosure rate in studies focusing on PMTCT clients than this study.

Disclosure rate is higher among men than women. This is comparable to findings of researchers in other locations.<sup>19,20</sup> Gender disparity in HIV status disclosure is driven by societal roles and unequal power dynamics, with women often facing higher risks of intimate partner violence, abandonment, and stigma when disclosing to partners, while men tend to experience less severe consequences. Though disclosure rates to partners can be similar, women frequently face higher social and economic pressures, and fear severe discrimination or physical abuse. Due to these disparities, women might struggle with accessing care to avoid disclosure,

while also experiencing more severe personal consequences if they do disclose. Men are more likely to have support for their disclosure compared to women.<sup>19,20</sup>

There is higher disclosure rate among those who know their partners status. Knowledge of the HIV-status of one’s partner creates 12 times likelihood of status disclosure to the partner. This is similar to findings of other researchers.<sup>10,14-20</sup> Similarly, disclosure rate is higher among married couple than among separated, divorcees or singles. Married individuals have 7 times likelihood of disclosing their HIV-status to their partners. Marriage provides social security and assurance of support from partner than any other form of association. Marriage is a demonstration of commitment in a relationship and it engenders confidence and trust in partners. However, fear of betrayal and divorce may make disclosure difficulty, especially amongst discordant couple. Disclosure rate is higher among concordant couples in this study. Concordant couples may find disclosure easier, though stigma can still prevent sharing, even when both are already aware of the risk. Serodiscordant couples face unique challenges,

with disclosure being essential for protecting the negative partner and assessing preventive measures.

Contrary to assertions that disclosure of status leads to better clinical outcomes in PLHIV,<sup>10,14-20</sup> there is no significant impact of disclosure on patients’ outcomes as measured by the clinical stage and CD4 counts in this study. May be a psychosocial evaluation tool might reveal a better emotional state and coping amongst those who made status disclosure than others.

### CONCLUSION

It can be concluded from this study, that most PLHIV in the area are married. Men are more likely to disclose their HIV-status to their partners than women; and married individuals have greater propensity to disclose to their spouse than any other group. Knowledge of one’s partner HIV-status and positive-concordant status highly increased the chances of disclosure to partners in any union. Status disclosure had no significant direct effect on clinical outcomes.

**TABLE 1: SOCIODEMOGRAPHIC CHARACTERISTICS OF THE PARTICIPANTS**

<b>Variables</b>	<b>Frequency (n=230)</b>	<b>Percent (100%)</b>
<b>**Age (in years)</b>		
20-29	25	10.9
30-39	83	36.1
40-49	69	30.0
50-59	45	19.6
60-69	8	3.4
<b>**Age (in years)</b>		
15-45 (Reproductive age group)	159	69.1
46-64 (Middle age)	69	30.0
≥65 (Elderly)	2	0.9
<b>Marital status</b>		
Married	138	60
Widow/widower	47	20.4
Single	26	11.3
Seperated	14	6.1
Cohabitors	3	1.3

Divorcees	2	0.9
<b>Gender</b>		
Male	62	27.0
Female	168	73.0
<b>Highest Educational level</b>		
No formal education	13	5.7
Primary	75	32.6
Secondary	79	34.3
Tertiary	63	27.4
<b>Religion</b>		
Christian	218	94.7
Moslem	12	5.3

\*\*Mean age ± SD = 41.13 ± 9.96, Age range 20-68 year

**TABLE 2 PARTICIPANTS’ HIV STATUS DISCLOSURE TO PARTNERS**

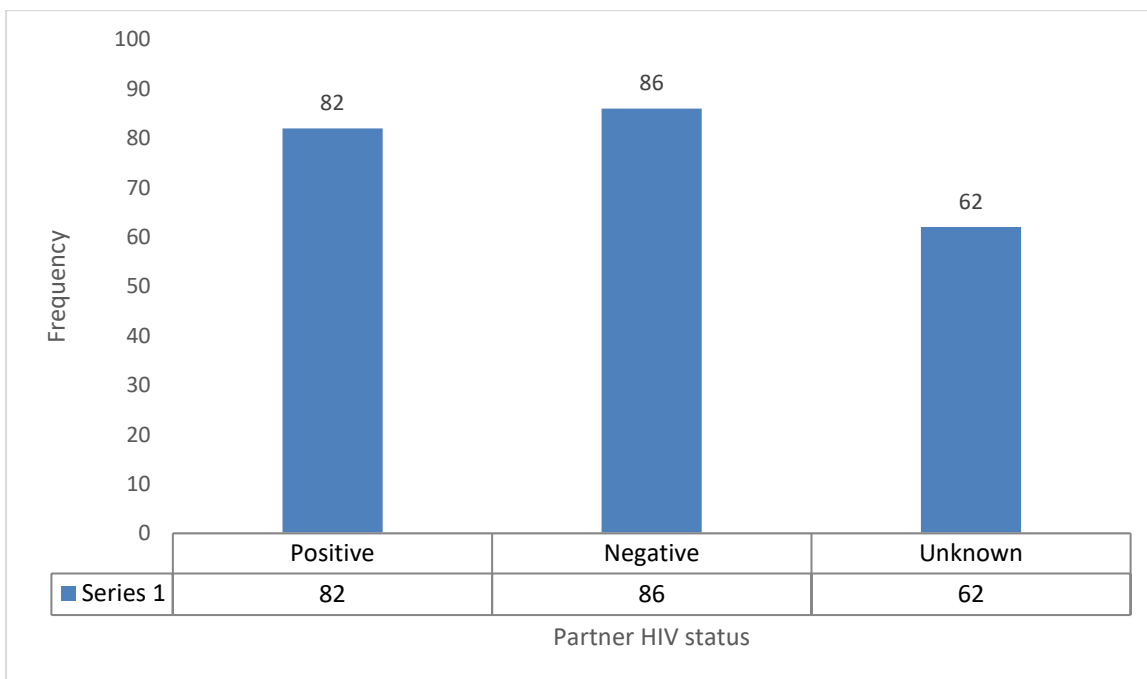
		HIV STATUS DISCLOSURE TO PARTNER		Total
		Undisclosed	Disclosed	
<b>GENDER OF RESPONDENTS</b>	<b>FEMALE</b>	103	65	168 (73.05%)
	<b>MALE</b>	31	31	62 (26.96%)
<b>Total</b>		134(58.3%)	96(41.7%)	230(100%)

**TABLE 3: CLINICAL PROFILE OF PARTICIPANTS**

Variables	Frequency (n=230)	Percent (100%)
<b>CD4 count (in mm<sup>3</sup>)</b>		
≤200	160	69.6
>200	70	30.4
<b>WHO HIV staging</b>		
Stage 1	174	75.7
Stage 2	32	13.9
Stage 3	14	6.1

Stage 4	10	4.3
<b>Duration on HAART</b>		
1-5 years	171	74.4
6-10 years	58	25.2
≥11 years	1	0.4
<b>ADHERENCE</b>		
Good	224	97.39
Poor	6	2.61

**FIG 1: BAR CHART OF PARTICIPANTS’ PARTNER HIV STATUS DISTRIBUTION.**



**TABLE 4: RELATIONSHIP BETWEEN STATUS DISCLOSURE AND SOME CHARATERISTICS OF THE PARTICIPANTS**

VARIABLES	N	X <sup>2</sup>	P-value	Remark
Gender	230	0.604	0.039	Significant
Age	230	74.15	0.770	Not significant
Partners’ HIV Status	230	3.908	0.009	Significant
Educational status	230	6.634	1.604	Not significant
Duration on HAART	230	13.08	2.208	Not significant

ART adherence	230	0.010	0.995	Not significant
WHO Stage	230	10.324	0.112	Not significant
CD4 count	230	2.234	0.401	Not significant
Marital Status	230	25.30	0.005	Significant
Religion	230	11.089	0.998	Not significant

**TABLE 5: LOGISTIC REGRESSION FOR PREDICTORS OF HIV DISCLOSURE AMONG THE PARTICIPANTS**

VARIABLES	ODDS RATIO	95% CI	P-VALUE
Gender	0.231	0.0875 - 3.604	0.219
Age	1.356	0.875 - 4.15	0.722
Partners' HIV Status	12.44	3.908 – 21.87	<0.05
Educational status	0.056	0.045 - 6.634	1.436
Duration on HAART	1.665	0.147 – 3.314	0.563
ART adherence	2.783	0.010 – 4.342	0.573
WHO Stage	0.452	0.124 - 10.324	0.332
CD4 count	2.21	0.432 - 2.234	0.391
Marital Status	7.213	2.256 - 25.30	<0.05
Religion	0.043	0.006 - 1.089	0.792

CI – confidence interval, percentage accuracy in classification (PAC) – 89.6%; omnibus test of model co-efficient (goodness of fit) –  $\chi^2$  (df = 5, N = 230) = 121.6,  $p < 0.001$ ; Hosmer and Lemeshow test – 0.898, sensitivity – 92%, specificity – 85.4%

**CONTRIBUTIONS OF AUTHORS:**

Adewuyi Gbolagade Morufu conceived the idea and conceptualized the study. Adewuyi Bolanle and Adewuyi Gbolagade were involved in literature search, development of Research proposal, data collection and analysis, and writing of manuscript for publication. Adewuyi Gbolagade Morufu is the Head of Department of HIV/AIDS at the study centre.

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**REFERENCES**

1. UNAIDS. Nigeria, HIV and AIDS estimates. <https://unaids.org/en/regionscountries/countries/nigeria> Accessed on 4/06/2025
2. WHO. The global Health Observatory. HIV Global Situation and trends. <https://www.who.int/data/themes/hiv-aidstext> Accessed on 4/06/2025
3. National Agency for Control of AIDS, NACA. Nigeria Prevalence Rate. <https://google.com/search?q/prevalence+of+hiv+nigeria> Accessed on 4/06/2025
4. Anobi Andrew Onovo, Adedayo Adeyemi, David Onime, Michael Kalnoky, Baoyma Kagniniwa, Melaku Dessie et al. Estimation

- of HIV prevalence and burden in Nigeria: a Bayesian predictive modelling study. *eClinical Medicin* (Part of THE LANCET Discovery Science) volume 62, 102098, August 2023
5. Adewuyi B. T. and Adewuyi G. M. Quality of life of people living with HIV and AIDS attending Irrua Specialist Teaching Hospital, Edo State, Nigeria. *Afr. J. Clin. Exper. Microbiol.* 2023; 24 (1): 32-44
  6. Gbolagade Morufu Adewuyi and B. T. Adewuyi. Family Functioning of HIV-Seropositive Patients in a Tertiary Hospital in South-South Nigeria. *Int.J.Curr.Microbiol.App.Sci.*2024.13(11): 155-165. DOI: <https://doi.org/10.20546/ijcmas.2024.1311.019>
  7. Gong T., Wang H., He X et al. Investigation of prevention of mother to child HIV transmission program from 2011 to 2017 in Suzhou, China. *Sci Rep* 8, 18071 (2018). <https://doi.org/10.1038/s41598-018-36623-6>
  8. Juliet Iwelunmor, Echezona E. Ezeanolue, Collins O Airhihenbuwa, Micheal C Obiefune, Chinenye O Ezeanolue, Gbenga G Ogedegbe. Socio-cultural factors influencing the prevention of mother-to-child transmission of HIV in Nigeria: a synthesis of the literature. *BMC Public Health.* 2014 Jul 30; 14:771. doi:10.1186/1471-2458-14-771
  9. HIV. gov. How is HIV transmitted? Updated: February 7, 2023. [www.hiv.gov/hiv-basics/overview/about-hiv-and-aids/how-is-hiv-transmitted#:~:text=HIV](http://www.hiv.gov/hiv-basics/overview/about-hiv-and-aids/how-is-hiv-transmitted#:~:text=HIV) Accessed 27/06/2025
  10. Adetumi A. Subulade; Taofik A. Salami; Gbolagade M. Adewuyi. Factors that promote HIV disclosure among women attending Prevention of Mother-to Child Transmission in a state in South Nigeria. *HIV AIDS Rev* 2018; 17, 4: 283-287 DOI: <https://doi.org/10.5114/hivar.2018.80261>
  11. AVERT. Global information and education on HIV and AIDS. History of HIV and AIDS overview. [www.avert.org/global-hiv-and-aids-statistics](http://www.avert.org/global-hiv-and-aids-statistics) Accessed 27/06/2025
  12. NACA. Nigeria Prevalence Rate. <https://naca.gov.ng> Accessed on 4/5/2026
  13. Samson-Akpan, P. E., Ojong, I. N., Ella, R., and Edet, O. B. Quality of life of people living with HIV/AIDS in Cross River, Nigeria. *Int J Med Biomed Res.* 2013; 2 (3): 207-212.
  14. Magaji FA, Ocheke AN, Pam VC, Afolaranmi T, Musa J et al. HIV Status in serodiscordant Couples: Prevalence and Pattern among Pregnant Women in Plateau State, Nigeria. *Journal of Clinical Research in HIV AIDS and Prevention* –2018: 3(2):33-40. <https://doi.org/10.14302/issn.2324-7339.jcrhap-18-2263>
  15. Daniel A Danboyi, Nura M Sani, Lawal Danjuma and Masud Abdullahi. Demographic and Social Factors Associated with HIV Discordance Among HIV-Infected Couples in Kaduna State Nigeria. *Int J Women's Health Care*, 2022:7(3), 119-124.
  16. Mitchell K. R., Mercer C. H., Prah P., Clifton S., Tanton C., Wellings K., and Copas A. Why do men report more opposite-sex partners than women? Analysis of gender discrepancy in a British national probability survey. *The Journal of Sex Research* 2019: 56(1), 1-8
  17. Angela Odiachi, Salome Ereka, Llewellyn J Cornelius, Christopher Isah, Habib O. Ramadhani, Laura Rapoport, Nadia A Sam-Agudu. HIV status disclosure to male partners among rural Nigerian women along the prevention of mother-to-child transmission of HIV cascade: a mixed methods study. *Reprod Health.* 2018 Mar 2;15:36. Doi:10.1186/s12978-018-0474-y.
  18. AS Sagay, J Musa, CC Ekwempu, GE Imade, A Babalola, G Daniyan, N Malu, JA Idoko and P Kanki. Partner Disclosure of HIV Positive Mothers in Northern Nigeria. APIN Project, Jos University Teaching

Hospital (JUTH) and Harvard School of Public Health, Boston, USA. APIN – Public Health Initiatives <https://apin.org.ng>  
Accessed on 5/5/2026.

19. Okorie CN, Gutin SA, Getahun m, Lebu SA, Okiring J, Neilands TB, et al. Sex specific differences in HIV status disclosure and care engagement among people living with HIV in rural communities in Kenya and Uganda. *PLOS Glob Public Health* 2023;

- 3(3): e00000556.  
<https://doi.org/10.1371/journal.pgpl.000556>  
20. Charles-Eromosele TO, Kanma-Okafor OJ, Sekoni AO, Olopade OO, Ekanem EE. Gender disparities in socioeconomic burden of HIV/AIDS among patients receiving care in an HIV clinic in Lagos, Nigeria. *Afr Health Sci*. 2022 Dec;22(4):477-487. Doi: 10.4314/ahs.v22i4.54