

# Contraceptive Use and Determinants Among Women Living with HIV in Ijebu Ode, Ogun State, Nigeria

Olu-Abiodun OO<sup>1</sup>[iD](#), Sodimu O<sup>1</sup>[iD](#), Ilusanmi O<sup>1</sup>, Sagbo F<sup>1</sup>

<sup>1</sup> Ogun State College of Nursing Science, Nigeria

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## Abstract

**Introduction:** Women living with HIV (WLHIV) face a heightened risk of unintended pregnancies, which can lead to mother-to-child transmission of HIV. Ensuring access to effective contraceptive methods is essential for protecting maternal and child health. This study assessed the prevalence of contraceptive use and associated factors among WLHIV in Ijebu Ode Local Government Area, Ogun State, Nigeria.

**Methods:** A descriptive cross-sectional study was conducted among 144 WLHIV aged 18–49 years, selected using simple random sampling from the PEPFAR clinic at the State Hospital, Ijebu Ode. Data were collected using a structured, interviewer-administered questionnaire covering demographics, contraceptive use, perceptions, and influencing factors. Descriptive statistics and chi-square tests were used to analyse the data.

**Results:** Contraceptive use prevalence among participants was 76.4%. The most used methods were condoms (83.3%) and injectables (41.8%). Contraceptive use was significantly associated with HIV status disclosure to a partner ( $p = 0.025$ ), prior counselling on contraceptives ( $p = 0.001$ ), tertiary education ( $p = 0.026$ ), access to preferred methods ( $p = 0.001$ ), and lack of desire for more children ( $p = 0.020$ ). The belief that contraceptives interfere with antiretroviral therapy (ART) was negatively associated with use ( $p < 0.001$ ).

**Conclusion:** Contraceptive uptake among WLHIV in this setting was high, particularly among women who had disclosed their HIV status, received counselling, or attained higher education. Interventions that promote disclosure, integrate family planning into HIV care, and address ART-contraceptive misconceptions are crucial for improving reproductive health outcomes.

**Keywords:** Contraceptive use, Women living with HIV, HIV status disclosure, Antiretroviral therapy, Nigeria

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## Introduction

Contraceptive use is a vital public health intervention that enables individuals and couples to prevent unintended pregnancies and achieve their desired family size. Contraceptive methods should be tailored to individual preferences, with a range of acceptable options accessible to all users (1). Effective contraceptive use is essential for managing population growth and for reducing maternal morbidity and mortality by preventing unplanned pregnancies and high-risk births (2).

Nigeria bears one of the highest burdens of HIV/AIDS globally. According to the Joint United Nations Programme on HIV/AIDS (UNAIDS), approximately three million Nigerians are living with HIV, with women accounting for most adult infections. In 2020, an estimated 1.9 million

people in Nigeria were living with HIV, with a national prevalence rate of 1.3%. Among adult women, the prevalence is higher, at 1.8%. In Ogun State, the HIV prevalence stands at 1.6%, with women disproportionately affected (3).

Women living with HIV (WLHIV) are particularly vulnerable to unintended pregnancies, which pose the risk of mother-to-child transmission (MTCT) of HIV. Inconsistent or incorrect use of contraceptives is a significant contributor to unintended pregnancies in this population (4). Vertical transmission accounts for over 90% of new paediatric HIV infections (5). For women already living with HIV, preventing unintended pregnancies using modern contraceptive methods is a key strategy in eliminating MTCT (6). Evidence from sub-Saharan Africa suggests that

contraception prevents 28.6% more HIV-positive births than Nevirapine alone for PMTCT (7).

In the context of expanded antiretroviral therapy (ART) access, meeting the contraceptive needs of WLHIV is critical, not only for supporting reproductive goals but also for reducing maternal and child mortality and preventing children from becoming orphans. Family planning empowers WLHIV to make informed reproductive choices, including delaying or limiting pregnancy (8). Globally, nearly 36.9 million people are living with HIV/AIDS, with women of reproductive age comprising almost half of this population. Thus, family planning remains central to controlling the HIV epidemic by reducing the incidence of unintended pregnancies among HIV-infected women.

Despite its importance, contraceptive use among WLHIV is limited by several factors. A systematic review identified key barriers including sociocultural norms, lack of comprehensive contraceptive knowledge, inadequate counselling by health professionals, fears about side effects, low literacy, and inaccessibility of preferred methods (7). Some women discontinue contraceptive use after HIV diagnosis due to concerns that contraceptives may interfere with antiretroviral therapy (ART) (8). Healthcare providers, concerned about possible pharmacokinetic interactions between hormonal contraceptives and ART, often recommend condoms over hormonal methods for WLHIV (9). Although the World Health Organisation (WHO) affirms that WLHIV have the right to use any contraceptive method available to HIV-negative women, the decision-making process is often more complex, as these women must weigh the dual goals of preventing unintended pregnancies and limiting HIV transmission (10).

Given this background, this study aimed to assess the prevalence of contraceptive use and the associated factors among women living with HIV in Ijebu Ode Local Government Area of Ogun State.

## Methods

### *Study Design and Setting*

This study adopted a descriptive cross-sectional design and was conducted between June and August 2023 at the President's Emergency Plan for AIDS Relief (PEPFAR) Clinic within Ogun State Hospital, Ijebu Ode, Ogun State, Nigeria. The clinic provides routine medical care, counselling, and support to approximately 2,000 individuals living with HIV/AIDS, the majority of whom are women of reproductive age.

### *Study Population*

The study population comprised women living with HIV (WLHIV) aged 18 to 49 years, who were receiving care at the clinic during the study period. To be eligible for inclusion, participants had to be within the specified age range, confirmed HIV-positive, and currently enrolled on antiretroviral therapy (ART). Women who were critically ill

at the time of data collection or who declined to provide informed consent were excluded from the study.

### *Sample Size Determination and Sampling Technique*

A sample size of 144 women was determined using Cochran's formula for estimating a population proportion, based on a previous prevalence of contraceptive use among WLHIV of 38.3% (11), a 95% confidence level, and a 5% margin of error. Specifically, the calculation used a standard normal deviate (Z) of 1.96, a proportion (p) of 0.383, and a complementary proportion (q) of 0.617, yielding a sample size of 144. Participants were selected using a simple random sampling technique from the clinic's client register to ensure representativeness.

### *Instrument for Data Collection*

Data were collected using a structured, interviewer-administered questionnaire, adapted from validated tools employed in similar studies (11, 12, 13). The instrument comprised five sections: Section A gathered demographic and background characteristics of respondents; Section B assessed their perceptions of contraceptive use; Section C focused on the types and preferences for contraceptive methods; Section D explored the extent of contraceptive use; and Section E examined the factors influencing contraceptive choices. Each section was designed to align with the study objectives and to elicit specific responses related to reproductive health behaviours among WLHIV.

### *Validity and Reliability of the Instrument*

To ensure the instrument's validity and reliability, its content was reviewed by reproductive health experts and subsequently pre-tested among 15 WLHIV attending an ART clinic in Sagamu Local Government Area, Ogun State. This pilot testing aimed to evaluate the clarity, cultural relevance, and appropriateness of the questions. Feedback obtained informed minor modifications to improve the questionnaire's structure and ease of understanding.

### *Recruitment and Training of Research Assistants*

Five data collectors were recruited, all of whom were graduates from health-related disciplines and fluent in English and Yoruba. They participated in a two-day training workshop (five hours daily), led by the principal investigator, on the study objectives, ethical considerations, and standardised data collection procedures. All research assistants completed the National Code for Health Research Ethics certification before fieldwork.

### *Data Collection Procedure*

Eligible participants were approached during clinic hours and informed about the study's purpose, confidentiality measures, and voluntary nature. After obtaining written informed consent, interviews were conducted in a private and secure environment within the clinic to ensure participant comfort and data confidentiality.

*Data Analysis*

Data were analysed using descriptive statistics, including frequencies and percentages, to summarise patterns of contraceptive use and identify factors associated with uptake among the study population. Results were presented using appropriate tables to aid interpretation.

**Results**

A total of 144 women living with HIV (WLHIV) participated in the study, with a 100% response rate. The mean age of respondents was 33.6 years (SD: 6.4). Table 1 summarises the sociodemographic characteristics of the participants.

**Table 1: Sociodemographic Characteristics of Respondents (n = 144)**

Variable	Category	Frequency (n)	Percentage (%)
Age group (years)	18–25	15	10.4
	26–34	69	47.9
	35–49	60	41.7
Marital status	Single	22	15.3
	Married	70	48.6
	Divorced	35	24.3
	Widowed	17	11.8
Religion	Christianity	67	46.5
	Islam	63	43.8
	Traditional	9	6.3
	Others	5	3.5
Occupation	Unemployed	25	17.3
	Employed	45	31.3
	Trader	66	45.8
	Student	8	5.6
Educational status	No formal education	20	13.8
	Primary	40	27.7
	Secondary	54	37.5
	Tertiary	30	21
Tribe	Yoruba	77	53.5
	Igbo	32	22.2
	Hausa	10	6.9
	Others	25	17.4
Years since HIV diagnosis	1–2 years	15	10.4
	3–5 years	40	28
	6–9 years	55	38.2
	10+ years	34	23.6
Years on ART	1–2 years	15	10.4
	3–5 years	40	28
	6–9 years	55	38.2
	10+ years	34	23.6

Most respondents (47.9%) were aged 26–34 years, nearly half (48.6%) were married, and 46.5% identified as Christians. Most were traders (45.8%), and the highest level of education attained by many participants was secondary education (37.5%). Over half (53.5%) of respondents were of

Yoruba ethnicity. Approximately 38.2% had been diagnosed with HIV and placed on ART for 6–9 years. Table 2 highlights the women’s perception of contraceptive use.

**Table 2: Perception of Contraceptive Use Among WLHIV (n = 144)**

Statement	Strongly Agree (SA)	Agree (A)	Neutral (N)	Disagree (D)	Strongly Disagree (SD)
Contraceptive use can prevent unwanted pregnancies	60 (41.8%)	40 (27.7%)	0 (0%)	34 (23.6%)	10 (6.9%)
Some contraceptives can prevent mother-to-child transmission of HIV	25 (17.3%)	45 (31.3%)	7 (4.9%)	24 (16.7%)	43 (29.9%)
Contraceptive use can make you gain weight	55 (38.2%)	40 (27.7%)	15 (10.4%)	25 (17.3%)	9 (6.3%)
Contraceptive use can prevent sexually transmitted infections	15 (10.4%)	50 (34.7%)	11 (7.6%)	26 (18.1%)	42 (29.2%)
Contraceptive use can help in child spacing	76 (52.8%)	35 (24.3%)	8 (5.6%)	15 (10.4%)	9 (6.3%)

A total of 69.4% of respondents had a good perception of contraceptive use, while 30.6% had a poor perception. The majority agreed that contraceptives prevent unwanted pregnancies and assist in child spacing, although fewer believed they prevent STIs or mother-to-child transmission. Table 3 summarizes the contraceptive use and preferences among WLHIV.

**Table 3: Contraceptive Use and Preferences Among WLHIV (n = 144)**

Item	Response	Frequency	Percentage (%)
Currently using any contraceptive method	Yes	110	76.4
	No	34	23.6
Currently use condoms	Yes	120	83.3
	No	24	16.7
Type of method currently used (multiple responses)	Injectables	60	41.8
	Oral pills	40	27.7
	Implants	24	16.7
	Hormonals (unspecified)	20	13.9
Satisfied with the current method	Yes	100	69.4
	No	44	30.6
Perceived effectiveness of the current method	Yes	75	52.1
	No	69	47.9

Approximately 76.4% of respondents were using a contraceptive method, with condoms (83.3%) and injectables (41.8%) being the most reported options. Satisfaction with the current method was high (69.4%), although nearly half (47.9%) did not consider their chosen method effective. Table 4 highlights the factors that influence contraceptive use among the WLHIV.

**Table 4: Factors Influencing Contraceptive Use (n = 144)**

Item	Yes (n)	%	No (n)	%
Currently on antiretroviral therapy (ART)	144	100	0	0
Ever been counselled on contraceptive use	130	90.3	14	9.7
Ever discussed contraceptive use with your partner	100	69.4	44	30.6
Disclosed HIV status to partner	50	34.7	94	65.3
Ever given birth	84	58.3	60	41.7
Intend to have more children	44	30.6	100	69.4
Have access to a preferred contraceptive method	75	52.1	69	47.9
Believe contraceptives interfere with ART	56	38.9	88	61.1

All respondents were currently on ART. While 90.3% had received counselling on contraceptive use, only 34.7% had disclosed their HIV status to their partner. About 52.1% reported having access to their preferred contraceptive, and

38.9% expressed concerns about potential drug interactions between ART and contraceptive methods.

*Summary*

Among the 144 WLHIV surveyed, the majority were aged between 26–34 years and had attained secondary education. About 76.4% were currently using a contraceptive method, with condoms and injectables being the most utilised. A substantial proportion had received contraceptive

counselling and had discussed contraceptive options with their partners, although HIV status disclosure was relatively low. Access to preferred methods and concerns about ART interactions were important considerations influencing contraceptive use.

To explore associations between contraceptive use and selected sociodemographic and reproductive health factors, chi-square tests were performed. The results are summarised in Table 5.

**Table 5: Association Between Selected Factors and Contraceptive Use (n = 144)**

Variable	Contraceptive Use (n = 144)	$\chi^2$	df	p-value
Disclosure of HIV status to a partner	Yes: 44 (88.0%) No: 66 (70.2%)	5.013	1	0.025*
Ever counselled on contraceptive use	Yes: 104 (80.0%) No: 6 (42.9%)	10.594	1	0.001*
Desire for more children	Yes: 28 (63.6%) No: 82 (82.0%)	5.376	1	0.020*
Educational level (Tertiary vs Others)	Tertiary: 28 (93.3%) Others: 82 (73.2%)	4.932	1	0.026*
Access to a preferred contraceptive	Yes: 66 (88.0%) No: 44 (63.8%)	10.512	1	0.001*
Belief that contraceptives interfere with ART	Yes: 34 (60.7%) No: 76 (86.4%)	11.466	1	<0.001*

\*Significant at p < 0.05

The bivariate analysis revealed several statistically significant associations. HIV status disclosure to a partner was significantly associated with contraceptive use (p = 0.025). Women who disclosed their status were more likely to use contraception compared to those who did not (88.0% vs 70.2%). This underscores the importance of open communication in reproductive decision-making. Contraceptive counselling had a strong positive association with contraceptive use (p = 0.001). Among those counselled, 80% used contraception, while only 42.9% of those not counselled did so. This finding emphasises the value of integrating contraceptive education into HIV care services. Desire for future children was inversely associated with contraceptive use (p = 0.020). Women who did not intend to have more children were significantly more likely to use contraception (82.0%) compared to those who desired more children (63.6%). Educational level showed a positive association. Women with tertiary education had the highest contraceptive uptake (93.3%), compared to 73.2% among those with lower education levels (p = 0.026), suggesting that education improves awareness and confidence in reproductive health decisions. Access to preferred contraceptive methods was also a key determinant. Those with access were significantly more likely to use contraception (p = 0.001). The belief that contraceptives interfere with ART was negatively associated with contraceptive use (p < 0.001). Women who believed that contraceptives interfere with ART were less likely to use them.

In summary, the analysis highlights that HIV status disclosure, contraceptive counselling, access to preferred methods, higher education, and absence of fertility intentions are significantly associated with contraceptive uptake among WLHIV. These findings underscore the need for targeted interventions that enhance communication, education, and integration of reproductive health services within ART clinics.

**Discussion**

This study explored contraceptive use and its associated factors among women living with HIV (WLHIV) in Ijebu Ode Local Government Area of Ogun State, Nigeria. The findings revealed a high prevalence of contraceptive use (76.4%) among the study participants, with condoms and injectables being the most frequently used methods. Key factors significantly associated with contraceptive uptake included HIV status disclosure to partners, prior contraceptive counselling, higher education level, absence of fertility intention, and access to preferred contraceptive methods. Conversely, the belief that contraceptives interfere with antiretroviral therapy (ART) was linked to reduced uptake.

The high contraceptive use and good perception among this cohort are encouraging and may reflect the positive impact of health education and counselling services provided at the PEPFAR clinic. This is consistent with findings from similar settings (11, 14, 15). Tewabe et al. (11) in Ethiopia demonstrated that counselling and access to contraceptive

services significantly improved uptake among HIV-positive women. Additionally, the role of education in enhancing reproductive health awareness aligns with findings from Adenuga et al. (16) in Nigeria, where women with higher education were more likely to use modern contraceptives.

The strong preference for condoms observed in this study mirrors the pattern reported by Yaya et al. (9) in Togo, where condom and injectable methods were the most used among HIV-positive women. This contrasts with studies from Ethiopia, such as Amsalu et al. (4) and Melaku and Zeleke (17), which reported injectables as the dominant method. The popularity of condoms in the present study may be attributed to their free availability at ART clinics and the dual protection they offer against unintended pregnancy and HIV/STI transmission.

HIV status disclosure to partners was found to significantly influence contraceptive use. Women who had disclosed their HIV status were more likely to use contraception than those who had not, a finding that aligns with studies conducted in Uganda and Kenya, where disclosure facilitated shared reproductive decision-making and improved contraceptive uptake (Tewabe et al. (11); Kebede et al. (13)). This highlights the critical need for healthcare providers to encourage and support disclosure through partner-inclusive counselling strategies.

Furthermore, concerns about contraceptive-ART interactions negatively influenced uptake. Similar concerns were reported in studies by Adeleye et al. (8) and Gedefaw et al. (7), where fear of drug-drug interactions led both providers and clients to avoid certain methods, particularly hormonal options. This underscores the importance of tailored counselling that addresses misconceptions and provides evidence-based guidance on the safety of various contraceptives alongside ART.

Access to preferred contraceptive methods also emerged as a determinant of use, mirroring findings by other authors in Nigeria (18, 19). While most participants reported satisfaction with their current methods, nearly half did not perceive them as effective, possibly reflecting limited contraceptive options or method mismatch. This finding supports WHO's recommendation that WLHIV should have the same range of contraceptive options as HIV-negative women, and that access barriers should be minimised (10).

#### *Study limitations*

Despite the positive findings, this study is not without limitations. The cross-sectional design limits causal inference, and findings may not capture changes over time in contraceptive behaviour. Moreover, self-reported data on contraceptive use and disclosure are subject to recall and social desirability bias. Additionally, the study was conducted in a single urban PEPFAR clinic, which may limit generalizability to rural or non-clinic populations. However, the high response rate and use of validated tools enhance the reliability of the findings.

#### **Conclusion**

This study highlights a relatively high level of contraceptive use (76.4%) among women living with HIV in Ijebu Ode, Ogun State. The most used methods were condoms and injectables. Uptake was significantly influenced by several factors, including HIV status disclosure to partners, prior contraceptive counselling, access to preferred methods, higher education level, and fertility intention. Conversely, belief in potential interactions between contraceptives and ART negatively affected use.

While the high contraceptive uptake is encouraging and may reflect the positive impact of counselling and health education at the PEPFAR clinic, challenges such as low partner disclosure rates and misconceptions about contraceptive safety remain important barriers. Addressing these issues is essential for improving reproductive health outcomes among HIV-positive women.

Based on the findings of this study, several key actions are recommended to improve contraceptive uptake and reproductive health outcomes among women living with HIV. Firstly, family planning services must be fully integrated into routine HIV care, particularly at ART clinics. This would ensure that all women attending HIV treatment centres are routinely counselled on their contraceptive options and supported in making informed reproductive choices. Providing such services during follow-up visits can significantly enhance uptake and continuity of contraceptive use.

Secondly, efforts should be made to promote partner engagement and support HIV status disclosure. This could be achieved through structured, couple-based counselling sessions facilitated by trained counsellors or peer educators. Since women who disclosed their status to their partners were more likely to use contraceptives, empowering women with the tools and support needed for disclosure is crucial.

In addition, the availability of a broad range of contraceptive options should be ensured. While condoms were the most used method in this study, many women expressed concerns about method effectiveness and limited choices. ART clinics should stock a full mix of contraceptives, including injectables, implants, oral pills, and intrauterine devices, to allow women to choose methods best suited to their needs and preferences.

Furthermore, misconceptions about interactions between contraceptives and ART should be systematically addressed. Health care providers and clients alike need up-to-date, evidence-based information, aligned with WHO guidelines, on the compatibility of ART and hormonal contraceptives. This will help reduce unnecessary fear and improve trust in available methods.

To reinforce these messages, a multidisciplinary approach should be adopted. Nurses, community health workers, pharmacists, and peer educators should collaborate to deliver consistent reproductive health education within and beyond clinical settings. Community-level engagement will be

particularly useful in reaching women with low literacy and those who might not regularly attend clinic visits.

Finally, policy-level action is required to sustain contraceptive supply, fund integrated service delivery, and support task-shifting strategies that allow trained non-physician health workers to offer both HIV and family planning services. Such systemic reforms will strengthen service availability and ensure that no woman is left behind in accessing the care she needs.

These recommendations, if implemented, could meaningfully improve contraceptive uptake, reduce unintended pregnancies, and enhance reproductive autonomy among women living with HIV in similar settings.

### Abbreviations

AIDS: Acquired Immunodeficiency Syndrome  
ART: Antiretroviral Therapy  
EAC: Enhanced Adherence Counselling  
FP: Family Planning  
HAART: Highly Active Antiretroviral Therapy  
HBM: Health Belief Model  
HIV: Human Immunodeficiency Virus  
MTCT: Mother-to-Child Transmission (of HIV)  
OTZ: Operation Triple Zero Support  
PEPFAR: President's Emergency Plan for AIDS Relief  
PMTCT: Prevention of Mother-to-Child Transmission  
STIs: Sexually Transmitted Infections  
UNAIDS: Joint United Nations Programme on HIV/AIDS  
UNICEF: United Nations Children's Fund  
USAID: United States Agency for International Development  
WHO: World Health Organisation  
WLHIV: Women Living with HIV

### Declarations

**Ethics Approval and Consent to Participate:** Ethical approval was obtained from the Ogun State Health Research Ethics Committee (OGHREC/467/87), and necessary permission from the relevant governmental and support agencies involved with HIV care in Ogun State, Nigeria. The participants were informed of the purpose of the research and were assured that the information provided would be kept confidential, anonymous, and their right to privacy was ensured. All the respondents gave written informed consent. All relevant ethical principles were adhered to.

**Data Availability:** Available upon request.

**Competing Interests:** The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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OOO, SOJ, IO, SF; Visualization: OOO, SF; Writing – original draft: OOO; Writing – review & editing: OOO, SOJ.

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