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Family Planning and HIV Care: Exploring Contraceptive Service Utilisation Among HIV-Positive Individuals in Sokoto State, Nigeria

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Abstract:
Background*: Human Immunodeficiency Virus (HIV) remains a major public health challenge globally, particularly in sub-Saharan Africa, where reproductive-age adults are disproportionately affected. Access to contraceptive services among people living with HIV is essential for preventing unintended pregnancies, reducing mother-to-child transmission, and improving reproductive health outcomes.*
Materials and Methods*: A descriptive mixed-method cross-sectional study was conducted among HIV-positive individuals attending selected HIV treatment facilities in Sokoto State. Quantitative data were collected from 192 respondents selected through multistage sampling, while 15 participants were purposively selected for in-depth interviews in the qualitative component. Structured interviewer-administered questionnaires adapted from validated tools were used for quantitative data collection, while semi-structured interview guides explored perceptions and experiences related to contraceptive use. Quantitative data were analysed using Stata version 16, while qualitative data underwent thematic analysis using Braun and Clarke's framework.*
Results*: Overall, 55.7% of respondents were currently using a contraceptive method, with modern contraceptives accounting for 88.2% of methods used. Male condoms (16.8%), oral contraceptive pills (15.9%), and injectables (14.0%) were the most utilized methods. Pharmacies were the leading source of contraceptive services (24.3%). Among sexually active respondents, 20.2% had unmet family planning needs. No statistically significant association was found between contraceptive utilisation and socio-demographic or clinical variables. Qualitative findings revealed three major themes influencing utilisation: navigating dual health risks, social architecture of decision-making, and structural constraints. Fear of drug interactions, fertility concerns, partner influence, religious beliefs, stigma, stock-outs, financial challenges, and provider attitudes significantly affected contraceptive uptake. Although knowledge of family planning was generally high, utilisation remained constrained by socio-cultural and systemic barriers.*
Conclusion: *Contraceptive utilisation among HIV-positive individuals in Sokoto State was moderate, with persistent unmet need despite relatively high awareness levels. Utilisation was shaped by complex interactions between individual perceptions, social relationships, and health system limitations rather than demographic characteristics alone.*
Key Word*: Contraception, HIV, Sokoto, unintended pregnancy.*

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I. Introduction

Human Immunodeficiency Virus (HIV) had been a major global public health challenge, mainly in sub-Saharan Africa where the burden of infection among women and reproductive-age adults is disproportionately high.[1,2] Access to comprehensive sexual and reproductive health services, as well as contraception, is critical for

reducing unintended pregnancies and preventing mother-to-child transmission (PMTCT) of HIV.[2,3] Contraceptive Utilisation among people living with HIV (PLHIV) contributes significantly to reproductive autonomy, improved maternal health outcomes, and reduction in pediatric HIV infections.[4] Modern contraceptive methods such as condoms, oral contraceptive pills, injectables, implants, and intrauterine devices are recognized as effective tools for preventing unintended pregnancies among HIV-positive individuals.[4] Additionally, dual contraceptive methods involving condoms with another modern contraceptive are strongly recommended for PLHIV because of simultaneous prevention of unintended pregnancy and sexually transmitted infections including HIV transmission to partners.[1]

Nigeria has one of the largest HIV epidemics globally, with a substantial number of women and men of reproductive age living with HIV infection.[5] Despite increased access to antiretroviral therapy (ART), and the integration of family planning services into HIV programmes, studies have shown that contraceptive Utilisation among HIV-positive individuals in Nigeria remains suboptimal.[2,4] Research conducted among HIV-positive women in Sokoto state, Nigeria demonstrated that fertility desires remain high (67.7%) among PLHIV due to sociocultural expectations surrounding marriage and childbearing.[6] Similarly, other studies in Nigeria have identified factors such as level of formal educational, disclosure of HIV status, partner support, and integration of family planning services into HIV care as significant predictors of contraceptive use among HIV-positive clients.[1,2,3,7,8]

Although interventions promoting PMTCT and family planning integration have been implemented in Nigeria, gaps remain in understanding how HIV-positive individuals utilize available contraceptive services, particularly in underserved regions.[2,3] The persistence of unmet contraceptive needs among PLHIV continues to pose a significant public health concern in Nigeria.[4] In Sokoto State specifically, there is limited documented research assessing contraceptive service Utilisation among HIV-positive individuals receiving HIV care.[5,6] Existing studies in Sokoto have mainly focused on HIV knowledge, fertility desires, adherence to treatment, and transmission patterns among PLHIV, with little emphasis on contraceptive Utilisation behaviors and associated determinants.[5,6,9] These factors make Sokoto State an important setting for this study. It is therefore imperative to develop context-specific evidence from Sokoto State, especially regarding how multi-level factors interact to influence uptake among HIV-positive individuals. This will aid in designing interventions that are both effective and acceptable, and beyond individual-level predictors but exploring socio-relational and health system determinants in context.

The study aimed to explore contraceptive service Utilisation among HIV-positive individuals in Sokoto State. The specific objectives were to determine the level and pattern of contraceptive service Utilisation among HIV-positive clients receiving care at selected facilities; to identify demographic, socio-economic, and behavioral factors associated with contraceptive use; and to explore perceptions, attitudes, and perceived barriers affecting access to and Utilisation of contraceptive services.

II. Material And Methods

This cross sectional study with mixed method design was carried out on HIV positive patient of facilities offering comprehensive HIV care in Sokoto State, Nigeria. A total of 192 patients both male and female adult were included in this study.

Study Design: Descriptive mixed cross-sectional study

Study Location: This study was a hospital based study done in facilities offering comprehensive HIV care in Sokoto State, Nigeria.

Study Duration: June to August 2025

Sample size: 192 patients

Sample size calculation: The sample size (n = 192) for the quantitative survey was determined using Cochran's formula with an estimated contraceptive prevalence (p) of 13% (regional estimate), Z = 1.96 for 95% confidence, e = 0.05 precision, and a 10% adjustment for non-response.

Subjects & selection method: The study population was selected using multistage sampling technique was used for the selection of study participants. The LGAs were stratified in urban and rural LGAs. Two LGAs were purposively selected in each of the urban and rural LGAs. From each selected LGA, two facilities offering comprehensive HIV care were through simple random sampling by balloting. At each selected facility, systematic sampling was employed using a daily attendance register where every 4th eligible client was invited to participate until facility quotas were filled. The first participant was chosen from the list of first four participants. We assumed that the confidence interval of 10% and confidence level of 95%. The sample size actually obtained for this study was 192 patients for the study with 10% drop out rate.

For the qualitative arm of the study, an in-depth interview was carried out 15 HIV-positive males (18-59 years) and females (15-49 years). The study participants who had experience with the use of contraception were

purposively selected in both urban and rural areas. This approach was used to ensure that the study captured a wide range of perspectives and experiences related to services and decision-making.

Inclusion criteria:
1. Confirmed HIV-positive status, enrolment in care at the selected facility for at least three months.
2. Aged 15–49 years for women and 18–59 years for men, and willingness to provide informed consent.

Exclusion criteria:
1. Current pregnancy or within six weeks postpartum
2. Those with medically confirmed infertility, or severe mental/physical illness impairing participation

Procedure methodology

Written informed consent was obtained for the quantitative survey, a well-designed questionnaire was used to collect the data of the participant. The questionnaire included socio-demographic characteristics such as age, gender, marital status, place of residence, Religion, ART status and HIV Status disclosure.

Information about family planning Utilisation was obtained from those that are current family planning users, methods used among current users of family planning and service sources among current users.

Quantitative data were collected using a structured questionnaire adapted from validated instruments and informed by the integrated HBM–SEM framework. The questionnaire was prepared in English and translated to Hausa; pre-testing was conducted in a non-study facility to refine wording and ensure cultural relevance. Trained research assistants conducted face-to-face interviews in private clinic spaces using electronic data capture (ODK) to minimise data entry errors. Responses were anonymised using unique identifiers.

For the qualitative methods, data were collected using semi-structured in-depth interviews using guide which explored risk perceptions (pregnancy and ART interactions), reproductive intentions, negotiation with partners and family, religious and community influences, experiences with health services (availability, provider attitudes, stock-outs), and suggestions for improvements. Interviews were audio-recorded with consent, transcribed verbatim, and translated to English where the language used for the interview was Hausa.

Statistical analysis

Quantitative data were analysed in Stata version 16. Descriptive statistics (frequencies, percentages) characterised the sample and contraceptive patterns. Bivariate analyses (chi-square tests) examined associations between contraceptive use and predictor variables. Variables with $p < 0.25$ at bivariate stage were entered into multivariable logistic regression to identify independent predictors; adjusted odds ratios (AORs), 95% confidence intervals (CIs), and p-values were reported.

Qualitative transcripts underwent thematic analysis following Braun & Clarke's six-phase approach: familiarisation, coding, theme generation, theme review, theme definition, and reporting. An inductive approach allowed themes to emerge from data while mapping them to the theoretical framework during interpretation. Triangulation between quantitative and qualitative strands provided contextualised explanations for statistical patterns and identified mechanisms underlying utilisation behavior.

III. Result

In this study, a total of 192 respondents were approached and all consented to participate; giving a 100% response rate.

Table 1 shows majority of the respondents were females with 100 (52.1%) and aged 35 years and above making up 113 (58.9%). Among the respondents, 116 (60.4%) were married. Secondary education was the highest with 49 (25.5%). Most respondents were on ART 177 (92.2%) and had disclosed their HIV status to a partner or family member 139 (72.4%).

Table 1: Socio-Demographic Characteristics of Respondents

VARIABLE	CATEGORY	FREQ n=192	(%)
Sex	Male	92	47.9
	Female	100	52.1
Age group (years)	< 25	36	18.8
	25–34	43	22.4
	≥ 35	113	58.9
Marital Status	Single	32	16.7
	Married	116	60.4
	Divorced/Separated	22	11.5
	Widowed	20	10.4

	Cohabiting	2	1.0
Education Level	No Formal Education	46	24.0
	Qur'anic Education	38	19.7
	Primary Education	34	17.7
	Secondary Education	49	25.5
	Tertiary Education	25	13.0
Place of Residence	Urban	71	37.0
	Rural	121	63.0
Religion	Islam	161	83.9
	Christianity	31	16.1
Art Status	Currently on ART	177	92.2
	Not on ART	15	7.8
HIV status disclosure	Disclosed to partner/family	139	72.4
	Not disclosed	53	27.6

Table 2 shows family planning utilisation among respondents showed that 107 (55.7%) were currently using a contraceptive method. Among users, male condoms were most common (16.8%). Modern methods dominated use (88.2%) over traditional methods (11.8%). Pharmacies were the most common service source (24.3%). Among the non-users, 68.2% had an unmet need for family planning.

Table.2: Family Planning Utilisation

Indicator	Category	Frequency (n)	Percentage (%)
Current FP Use	Using FP	107	55.7
	Not Using FP	85	44.3
Methods Used (among current users n=107)			
	Male condom	18	16.8
	Female condom	12	11.2
	Pills (OCPs)	17	15.9
	Injectables	15	14.0
	Implants	10	9.4
	IUCD	10	9.4
	Traditional methods		10.3
Service Sources (among current users n=107)			
	Pharmacy	26	24.3
	Government	24	22.4
	Private Clinic	21	19.6
	HIV Clinic	19	17.8
	Vendor	17	15.9
Unmet Need (among non -users=85)			
Unmet need	58	68.2	
	No unmet need	27	20.2

Table 3 shows male respondents were less likely to use family planning compared to females, though it was not statistically significant AOR = 0.71, 95% CI: 0.39–1.31, p = 0.272). Respondents aged 25–34 years and ≥35 years were less likely to use family planning compared to those below 25 years (AOR = 0.66, 95% CI: 0.25–1.71, p = 0.389) and 0.98 odds (AOR = 0.98, 95% CI: 0.43–2.21, p = 0.952) respectively. All other variables analysed did not predict the use of family planning.

Table 3: Predictors of Contraceptive Utilisation

Variable	Category (Reference)	Adjusted Odds Ratio (AOR)	95% CI	Percentage (%)
Sex	Female (Ref)	1.00	-	-
	Male	0.71	0.39 – 1.31	0.272
Age group (years)	<25 (Ref)	1.00	-	-
	25–34	0.66	0.25 – 1.71	0.389
	≥35	0.98	0.43 – 2.21	0.952
Educational level	Tertiary (Ref)	1.00	-	-
	No formal education	0.46	0.15 – 1.41	0.176
	Primary education	0.42	0.14 – 1.27	0.126
	Quranic education	0.61	0.21 – 1.78	0.362
	Secondary education	0.58	0.19 – 1.80	0.343
Place of residence	Rural (Ref)	1.00	-	-
	Urban	0.62	0.32 – 1.20	0.154
Religion	Christianity (Ref)	1.00	-	-
	Islam	0.45	0.19 – 1.10	0.081

ART status	Not on ART (Ref)	1.00	-	-
	Currently on ART	0.86	0.27 – 2.72	0.799
HIV status disclosure	Not disclosed (Ref)	1.00	-	-
	Disclosed to partner/family	0.91	0.45 – 1.82	0.787

Qualitative Findings: Thematic Analysis of Perceptions, Attitudes, and Barriers

This section presents findings from thematic analysis of 15 in-depth interviews conducted with HIV-positive individuals in Sokoto State. The analysis followed Braun and Clarke's (2006) six phase framework to identify, analyse, and report patterns within the qualitative data. Three major themes emerged, each with sub-themes, as summarised in Table 4 below.

Table 4: Overview of Qualitative Themes and Sub-themes

Major Theme	Sub-themes	Core Concept	Representative Quote Count
1. Navigating Dual Health Risks	1.1 Fear of drug interactions 1.2 Balancing pregnancy risks 1.3 Concerns about fertility	Perceived health risks influencing contraceptive decisions	12 participants
2. The Social Architecture of Decision-Making	2.1 Partner as gatekeeper 2.2 Family and community surveillance 2.3 Religious interpretations	Social relationships controlling reproductive choices	14 participants
3. Structural Constraints and Practical Realities	3.1 "Stock-out syndrome" 3.2 Geographic barriers 3.3 Provider-client dynamics	Systemic barriers limiting service Utilisation	10 participants

Theme 1: Navigating Dual Health Risks

Participants consistently described weighing the risk of unintended pregnancy against perceived risks of contraceptive use, particularly in relation to their HIV status.

Sub-theme 1.1: Fear of Drug Interactions and Side Effects

The dominant concern was potential interactions between contraceptives and antiretroviral therapy (ART), often fueled by community narratives rather than medical information.

"My sister-in-law told me her friend became very ill after taking family planning while on treatment. They said the drugs were fighting in her body. How can I risk that when I'm already managing this virus?" (Fatima, 32, Female, rural)

"The clinic gives me ARVs and sometimes condoms, but no one sits to explain if the injection will work with my medicines. If they don't explain, I assume it's dangerous." (Ibrahim, 45, Male, urban)

Sub-theme 1.2: Balancing Pregnancy Risks with Contraceptive Risks

Participants engaged in complex risk calculations, often prioritising immediate, tangible fears over long-term health concerns.

Table 5: Risk Perception Comparisons

Perceived Risk	Immediate Concern	Long-term Worry	Decision Outcome
Contraceptive Side Effect	Weight gain, headaches	Permanent infertility	Often avoidance
HIV-positive Pregnancy	Social stigma, disclosure challenges	Vertical transmission, health deterioration	Delayed consideration
Unplanned Pregnancy	Economic burden, partner reaction	Family disruption, health complications	Varied responses

"Yes, I know about preventing HIV passing to baby, but that is maybe. The stomach pain from the IUD my neighbor had, that was real. I saw her suffering." (Aisha, 29, Female, rural)

Sub-theme 1.3: Fertility Preservation Concerns

Maintaining future fertility was a paramount concern, especially for women without children or only male children.

"I have two daughters. My husband's family expects a son. If I use family planning now and later cannot conceive, they will blame the HIV and the family planning. Better to have another child now than risk never having a son." (Zainab, 36, Female, urban).

Theme 2: The Social Architecture of Decision-Making

Contraceptive decisions were embedded within complex social networks, where individual preference was often secondary to collective approval.

Sub-theme 2.1: Partner as Gatekeeper

Male partner authorisation emerged as a critical factor in contraceptive access.

Table 6: Partner Influence Mechanisms

Influence Type	Description	Frequency in Interviews	Impact on Utilisation
Explicit Permission	Direct approval required before service access	9/15 participants	Enabling when granted
Implicit Expectation	Unspoken reproductive expectations	11/15 participants	Constraining
Covert Opposition	Passive resistance through non-cooperation	5/15 participants	Strongly inhibitory
Active Support	Joint decision-making and accompaniment	3/15 participants	Strongly facilitating

"I went for family planning counseling last year. The nurse explained everything. But when I told my husband, he asked, 'Are you planning to be promiscuous? Why do you need it?' That was the end of the discussion." (Hauwa, 33, Female, rural)

Sub-theme 2.2: Family and Community Surveillance

Extended family and community monitoring added layers of accountability beyond the marital relationship.

"My mother-in-law watches me closely. If I don't get pregnant within two years of marriage, she will start asking questions. If she finds out I'm using family planning, she will tell everyone I'm selfish or that something is wrong with me." (Mariam, 28, Female, urban)

Sub-theme 2.3: Religious Interpretations and Permissions

Religious beliefs acted as both barriers and facilitators, depending on interpretation and clerical guidance.

"I consulted my Mallam. He said Islam encourages responsible parenthood. If my health is poor, spacing children is not just allowed but recommended. This gave me peace to use the method." (Usman, 41, Male, rural)

"Our church group says family planning is against God's will. They say if God gives you HIV, He will protect your children. Who am I to question that?" (Grace, 31, Female, urban)

Theme 3: Structural Constraints and Practical Realities

Beyond individual and social factors, systemic barriers created tangible obstacles to service utilisation.

Sub-theme 3.1: "Stock-out Syndrome"

Consistent unavailability of preferred methods at health facilities emerged as a critical barrier.

"Three times I went for the implant. Three times they said 'come back next month.' The fourth time, I was pregnant. Now they tell me to come for PMTCT. Why couldn't they give me what I needed to prevent this?" (Chika, 27, Female, urban)

Sub-theme 3.2: Geographic and Financial Access Barriers

Distance and cost disproportionately affected rural and low-income participants.

Table 7: Access Barrier Descriptions

Barrier Type	Specific Challenge	Participant Quote
Geographic Distance	2–3 hours travel to nearest facility	*"I leave my farm work, pay for transport, spend the whole day. For what? Maybe just to be told they don't have what I need."*
Opportunity Cost	Lost wages or productivity	*"Each clinic visit means my children eat less that week. I must choose between family planning and feeding them."*
Hidden Costs	Unofficial payments, documentation fees	*"The method is free, but they say, 'bring money for card' or 'give something for the nurse.' Nothing is truly free."*

Sub-theme 3.3: Provider-Client Power Dynamics

Interactions with healthcare providers often reinforced barriers, affecting service quality.

"The doctor just writes 'condoms' on my card every time. I try to ask about other methods, but he is too busy. He says, 'use what we have.' But condoms need my husband's cooperation, which I don't have." (Amina, 34, Female, rural)

"When I asked about family planning, the nurse looked at my file and said, 'With your status, you should be grateful to be alive, not thinking about sex.' I never asked again." (Samuel, 39, Male, urban).

Explaining the Knowledge-Utilisation Gap

The quantitative data revealed high knowledge (81.8%) but moderate utilisation (55.7%). Qualitative findings explain this gap through interconnecting mechanisms.

Table 8: Mechanisms Explaining Knowledge-Utilisation Gap

Quantitative Finding	Qualitative Explanation	Integrated Insight
High FP knowledge	Knowledge overridden by fear of side effects/drug interactions	Cognitive Override: Immediate fears trump factual knowledge.
20.2% unmet need	Social restrictions, not lack of information	Social Constraint: Knowledge doesn't translate to action without social permission.
No significant demographic predictors	Relational/structural determinants	Contextual Primacy: Individual characteristics matter less than context.

Triangulation of Barrier Perceptions

Table 9: Barrier Triangulation Matrix

Barrier	Quantitative Prevalence	Qualitative Depth	Integrated Understanding
Fear of side effects	17.2% reported	Dominant theme with rich narratives	Under-reported in survey, central in lived experience.
Partner disapproval	9.9% reported	Pervasive influence across interviews	Social desirability bias likely suppressed survey reporting.
Method availability	7.8% reported (p=0.063)	Critical, emotionally charged experiences	Statistical trends mask profound service delivery failures.
Distance to facility	21.9% reported	Embedded in narratives of lost income and time	More than geography—an economic and social burden.

IV. Discussion

The aim of this study to explore contraceptive service utilisation among HIV-positive individuals in Sokoto State. The study findings showed that over half (55.7%) of HIV-positive respondents were currently using contraception, with male condoms, oral pills, and injectables being the most common methods. This is similar to the findings of a study in Nigeria which reported about 50% contraceptive use among HIV-positive women, with condoms as the predominant method. This reflects dual protection benefits against HIV transmission and unintended pregnancy.[2] However, the higher proportion of modern method use (88.2%) in this study contrasts with earlier reports in Nigerian of generally low modern contraceptive uptake in the general population, suggesting improved access among HIV clients likely due to integration of family planning into ART services.[2] Pharmacies were the major service source among respondents which is in contrast to the findings in similar studies in Uganda and Ethiopia where ART clinics were the major source of contraceptive services.[10,11] This indicates structural access challenges where commodity availability and convenience often shift demand toward private or informal outlets. The unmet need of 20.2% among sexually active respondents is lower than findings from another study in Nigerian with 43.5% indicating relatively better service coverage in the present study but still reflecting a significant gap in meeting reproductive intentions.[12] Comparatively, global and broader African evidence shows variability, with a hospital-based study in India reporting higher contraceptive use (74.5%) but still notable unmet need (17%), suggesting that while utilisation levels differ by context, unmet need remains a universal challenge among women living with HIV.[13] Furthermore, a recent sub-Saharan African meta-analysis confirms that unmet need for family planning among HIV-positive women remains substantial across the region, reinforcing that the finding in this study, though lower than some Nigerian estimates, still aligns with persistent regional reproductive health gaps.[14]

Even though not statistically significant, the finding that male respondents had lower odds of contraceptive use compared to females is consistent with Nigerian and broader African literature where women, particularly those accessing HIV care, are more directly targeted for family planning services, while male involvement remains limited despite its recognized importance.[15] Respondents aged 25–34 years had lower odds of use compared to younger individuals which is inconsistent with several Nigerian Demographic and Health Survey which shows peak contraceptive uptake in this age group due to higher fertility regulation needs, although some HIV-specific studies report reduced use due to fertility intentions and partnership dynamics.[16] Contraceptive use among individuals with less than tertiary education align with the fact education significantly improves family planning uptake among HIV-positive individuals by boosting knowledge, fostering positive attitudes, and reducing stigma, leading to higher contraceptive use.[17] The finding that single, married, and divorced/separated

respondents were less likely to use contraception compared to widowed individuals is somewhat inconsistent with studies, which typically report higher contraceptive use among married men and women due to ongoing exposure to pregnancy risk, suggesting that contextual or cultural dynamics in this study population may differ.[18,19] Urban residents having lower odds of contraceptive use compared to rural residents is not consistent with studies which show that family planning uptake among HIV-positive individuals is generally lower in rural areas compared to urban areas. While the need for contraception is high among people living with HIV (PLHIV) to prevent mother-to-child transmission and unintended pregnancies, rural populations face greater barriers, including limited service access, fewer providers, and higher levels of stigma.[20,21] The lower odds of contraceptive use among Muslim respondents compared to Christians is supported by several Nigerian and West African studies that link religious beliefs and norms with contraceptive acceptance, though this relationship is often mediated by education and community context. The finding that respondents on ART or those who had disclosed their HIV status were less likely to use contraception contrasts with much of the global and African literature, where ART engagement and disclosure are typically associated with increased uptake of family planning due to integrated services and counseling, suggesting potential missed opportunities for integration in this setting.[22]

The finding that HIV-positive individuals navigate dual health risks including fear of drug interactions, pregnancy complications, and fertility concerns aligns strongly with evidence from African and global studies showing that perceptions of ART–contraceptive interactions and concerns about reproductive health significantly influence contraceptive behavior among people living with HIV; for example, a multi-country African cohort study reported that concerns about unintended pregnancy and method safety while on ART shaped contraceptive choices and non-use among women receiving HIV care.[23] Similarly, global systematic reviews indicate that limited understanding of ART interactions and reproductive intentions often create uncertainty around contraceptive uptake, particularly among individuals balancing HIV management with fertility desires, reinforcing the dual-risk context observed in this study.[24] However, while the finding in this emphasizes fear-driven avoidance, some global studies contrast this by showing that integrated counseling in HIV programs can mitigate these concerns and improve contraceptive uptake, suggesting that the observed fears may reflect gaps in service integration rather than inherent barriers.[24]

Social architecture of decision-making including partner influence, family pressure, and religious beliefs is well supported by Nigerian and sub-Saharan African literature, where interpersonal and community-level dynamics significantly shape contraceptive use among HIV-positive individuals; for instance, research from South Africa found that disclosure, partner dynamics, and fear of stigma or rejection strongly influenced health-related decisions, including reproductive choices.[25] In line with this, broader African systematic reviews highlight that stigma, intimate partner relationships, and socio-cultural expectations are central determinants of both ART adherence and reproductive health behaviors, indicating that contraceptive use decisions are rarely individual but socially negotiated.[26] Conversely, some global studies suggest that in settings with strong male involvement and supportive partner communication, these same social structures can facilitate rather than hinder contraceptive use, highlighting a contrast with the predominantly restrictive influence observed in this study findings.[24]

The structural constraints identified in this study such as commodity stock-outs, geographic barriers, financial limitations, and provider–client dynamics are consistent with extensive African and global evidence demonstrating that health system weaknesses remain a major barrier to both ART and contraceptive service utilisation; for example, a Ghanaian study documented financial costs, access challenges, and service delivery inefficiencies as key barriers affecting HIV care engagement, which similarly extend to family planning access.[27] Furthermore, a recent sub-Saharan African scoping review emphasized that structural issues such as drug stock-outs, poor service integration, and limited accessibility continue to undermine HIV-related health service uptake, including contraception.[28] While these findings are consistent with global literature, some high-income settings report fewer structural barriers due to stronger health systems, underscoring that the constraints observed in this study are particularly pronounced in low-resource contexts and contribute significantly to reduced contraceptive utilisation among HIV-positive populations.[28]

V. Conclusion

This study found that contraceptive utilisation among HIV-positive individuals in Sokoto State was moderate, with modern methods such as condoms, oral pills, and injectables being the most commonly used. Despite this, many participants relied on pharmacies rather than formal health facilities, and unmet contraceptive needs remained prevalent. Contraceptive use was influenced by demographic, socio-cultural, and structural factors, including gender, age, education, marital status, residence, and religion. Barriers such as stigma, partner influence, fear of drug interactions and fertility issues, stock-outs, and financial constraints further limited utilisation. The findings highlight the need for improved integration of HIV and family planning services, targeted education and counseling, increased male involvement, and strengthened health systems to address both social and structural barriers.

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