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INTERNATIONAL JOURNAL of  
MATERNAL and CHILD HEALTH and AIDS  
ISSN 2161-864X (Online)  
ISSN 2161-8674 (Print)  
DOI: 10.21106/ijma.277

## ORIGINAL ARTICLE

# Reproductive Plans And Utilization of Contraceptives Among Women Living With HIV

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## ABSTRACT

**Background:** Despite public health policies aimed at providing universal access to reproductive health care services, the reproductive health needs of women living with Human Immunodeficiency Virus (WLHIV) are not adequately met. This study assesses the reproductive plans and utilization of contraceptives among WLHIV.

**Methods:** This was a cross sectional descriptive study, which adopted a mixed method approach. A total of 400 respondents were recruited from two tertiary health institutions in Nigeria using systematic sampling technique. A validated structured self-administered questionnaire developed by the researcher was used to collect quantitative data for the study. The questionnaire consists of close ended questions related to study objectives. Quantitative data collected were coded and analyzed using Statistical Package for Social Sciences (SPSS) windows version 22 and statistical significance was set at  $p < 0.05$ . The qualitative aspect of the study utilized focus group discussion for data collection.

**Results:** The mean and standard deviation (SD) age of enrolled respondents was  $37.42 \pm 7.51$  years, and about 59.0 percent were currently married. The prevalence of reproductive desire among WLHIV was comparatively high at 56.5 percent. Furthermore, about 57 percent of the WLHIV had good knowledge of available contraceptives. The current utilization of contraceptive was 47.3 percent. The results revealed significant association between knowledge level of contraceptive options and utilization of contraceptives ( $X^2 = 7.21$ ,  $df = 1$ ,  $p = .007$ ), and level of education and utilization of contraceptives ( $X^2 = 21.02$ ,  $df = 3$ ,  $p = .001$ ) among women living with HIV. Also, a significant association was found between the respondents' desires to have babies and their knowledge level of contraceptive options that prevent and reduce the risk of vertical transmission of HIV infection ( $X^2 = 13.717$ ;  $P = 0.03$ ).

**Conclusions and Global Health Implication:** Quality reproductive health service bridges the gaps in the continuum of reproductive health and addresses the risk associated with pregnancy in WLHIV. Integration of reproductive health care in the management of HIV may improve the health of childbearing women living with HIV.

**Key words:** Reproductive health • Contraceptives • Women • Human Immunodeficiency Virus

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## I. Introduction

### I.1. Background of Study

The reproductive health care of women living with human immunodeficiency virus (WLHIV) has never been adequately met despite intention of public health policies to provide universal access to reproductive health care service.<sup>1</sup> HIV has a serious effect on the reproductive health of women, not only its transmission sexually but annual occurrence of infection in women.<sup>2</sup> In Nigeria, HIV prevalence among currently married and never-married women is 3.4%. Being under 15 years of age at first sex, and having engaged in transactional sex were found to be the strongest HIV risk factors among women.<sup>3</sup> Nigeria has over 80% cases of HIV transmission through heterosexual intercourse.<sup>4</sup> Inability to make sexual decisions, and forced abortion experience has been reported by WLHIV Nigeria.<sup>5</sup> About 2 million (90%) of childhood HIV in sub-Saharan Africa is through mother to child transmission, this signifies high levels of fertility and low modern contraceptive use among HIV positive women in Sub-Saharan Africa.<sup>2</sup>

Fertility is a vital transition in sub-Saharan African, fertility rate in this region is higher than other region of the world.<sup>4</sup> Nigeria account for 70% of sexually active WLHIV, fertility rate of 5.5 million per children among WLHIV and (15%) low contraceptive uptake.<sup>4</sup> Reproductive family health as related to preventing unintended pregnancy and supporting planned pregnancy is an area that is especially relevant to HIV-infected women.<sup>6</sup> According to the World Health Organization's (WHO's) Medical Eligibility Criteria for Contraceptive use, most contraceptive methods are safe and effective for WLHIV, both with asymptomatic HIV and AIDS.<sup>6</sup> Modern contraceptives should be made readily available and accessible to women living with HIV to help eliminate mother-to-child transmission of HIV and subsequent new pediatric HIV infections.<sup>6</sup> Various studies have demonstrated that there is need for more information on safer contraception methods among WLHIV.<sup>7</sup> About 2 million (90%) of childhood HIV in sub-Saharan Africa is through mother to child transmission, this signifies high levels of fertility and low modern contraceptive use among HIV positive women in Sub-Saharan Africa.<sup>2</sup>

However, integrated HIV and family planning (FP) service model developed enable linkage with antiretroviral therapy (ART) services for eligible clients. Globally, there is unmet need of family planning services among at least 25 per cent of all HIV married women.<sup>8</sup> In sub-Saharan Africa, eight male condoms are available per year for each sexually active individual, there is low access to condom among young people.<sup>2</sup> Evidence suggests that in Sub Saharan Africa (Nigeria and Zambia) WLHIV utilize contraception at higher rate to prevent unplanned pregnancy than women not living with HIV.<sup>9</sup> In contrast, there is significant low uptake of family planning services, majority of WLHIV were conversant with at least one method of family planning.<sup>10</sup> Utilization of contraceptives is significantly predicted by women's knowledge of their HIV-positive status.<sup>11</sup> In Nigeria, it was reported that 39.8% utilization of condom among WLHIV with cohabiting partner.<sup>12</sup> However, Adenuga, et al reported increased level of contraceptive uptake and satisfaction among WLHIV.<sup>12</sup>

Availability and accessibility of highly active antiretroviral therapy (HAART) to treat HIV infection results in increase reproductive opportunity for women living with HIV. It is every woman's right to conceive, yet there are various problems related to pregnancy, especially amongst WLHIV. Evidence show that these women have different reproductive desires with majority desirous of childbearing.<sup>13</sup> Despite the impact of provision of antiretroviral treatment for people living with HIV and AIDS to improve pregnancy outcome, transmission of (HIV from mother to child is still high.<sup>13</sup> There is a significant association between fertility intention and ART use among WLHIV in Ethiopia.<sup>14</sup>

Unintended/unwanted pregnancy continues to be a burden in Sub-Saharan Africa, with an estimated 14 million cases occurring each year.<sup>8</sup> Similarly, researchers noted high rate of unplanned pregnancy among women living with HIV in South Africa.<sup>15</sup> In contrast, Akelo, et al.<sup>16</sup> noted that majority of women living with HIV on ART in South Africa and Kenya planned their pregnancy. Unplanned pregnancies involve higher HIV risk and could undermine efforts to eliminate new infections.<sup>17</sup> Ezugwu et al<sup>18</sup> noted

that substantial number of women living with HIV declared their pregnancies to be unplanned. Unplanned pregnancies among women living with HIV are targeted through availability and accessibility of Family Planning Services.<sup>19</sup>

The researchers observed that WLHIV can also plan their reproductive lives to avoid unwanted pregnancy and enjoy parenthood like their counterparts who are not infected by the virus. Hence, this study intended to bridge this gap of limited information on contraceptives option and helps provide necessary information for informing reproductive practice and care of WLHIV.

### 1.2. Objectives and Hypotheses

The objective of the study was to assess the reproductive plans and utilization of contraceptives among WLHIV in selected teaching hospitals in South West, Nigeria. Specifically, we aimed to: (1) assess the knowledge of contraceptive options available to WLHIV; and (2) examine the reproductive plans and desire for children among WLHIV; (3) examine utilization of contraceptives among WLHIV; and (4) assess the family support received by WLHIV in our study. We hypothesized that (1) would be no significant association between knowledge of contraceptive options and contraceptives utilization among WLHIV; (2) there would be no significant association between knowledge level of contraceptive options and desire for children among WLHIV; and (3) there would be no significant association between number of living children and reproductive desire to have more children among WLHIV.

## 2. Methods

The study adopted a descriptive cross-sectional design to assess the reproductive plans and utilization of contraceptives among WLHIV in selected teaching hospitals in South Western, Nigeria. This study was conducted in two tertiary health institutions in South-west region of Nigeria. These health institutions have HIV/AIDS clinics, namely the AIDS Prevention Initiative in Nigeria (APIN) clinic in Lagos University Teaching Hospital (LUTH) in Lagos State and the United States President's Plan for Emergency AIDS Relief (PEPFAR) clinic in University College Hospital (UCH) in Ibadan, Oyo State. The

two sites were purposively selected because they provide antiretroviral (ARV) treatment. In all, 427 reproductive age women on ARV therapy attending PEPFAR clinics at UCH and APIN Clinic at LUTH who met the inclusion criteria and gave voluntary consent to participate were recruited for this study using systematic sampling technique. Ethical approval was obtained from the Health Research and Ethics Committee of the LUTH and UCH. Informed written consent was obtained and confidentiality of all the information obtained from the study participants was ensured.

### 2.1. Study Variables

The quantitative data was collected using a validated structured questionnaire developed by Haynes et al.<sup>18</sup> The questionnaire was used to assess women's reproductive desire and focus group discussion guide to identify the factors influencing contraceptive utilization and reproductive desire. The adapted questionnaire was translated into local Yoruba language (for those who would find it easier to complete in Yoruba language) and back translated into English language to retain the original meaning of the questions. The reliability of the quantitative instrument was determined by test-retest of instrument stability. This was done by administering questionnaire to 5% of study sample that met inclusion and exclusion criteria. The data were analyzed using Cronbach's alpha reliability coefficient which was 0.7, hence reliability of the instrument was confirmed to be high. Three research assistants, who were nursing students, were trained and they performed all data collection.

Sample size of 427 was determined by using the simple estimation formula by Adeuniga et al.,<sup>12</sup> including 20% non-response rate.

**Table A: Proportionate allocation of study Sample**

Centre	Estimated Population	Sample Size selected
LUTH	250	$\frac{250}{400} \times 427 = 194$
UCH	300	$\frac{300}{400} \times 427 = 232.9$
Total	550	426

**Qualitative method:** The number of WLHIV that gave consent and participated in the focus group discussion was 10 respondents for each hospital.

## 2.2. Statistical Analysis

Statistical Package for Social Science windows version 22 (SPSS Inc., Chicago, Illinois) was used to obtain the mean and standard deviation of mean ages of enrolled women using simple descriptive analysis. Basic descriptive statistics (frequencies, proportions, means, and standard deviations [SD]) were calculated for all of the items of the questionnaire. Chi-square test was also used in bivariate analysis to determine the association between various socio-demographic factors and contraceptive use while  $P$ -value  $\leq 0.05$  was considered to be statistically significant

## 2.3. Ethical Approval

This study was conducted in accordance with research ethics. Ethical approval was obtained from Ethics Review Committees at the College of Medicine, University of Lagos, Idi-Araba, (CMUL/HREC/02/18/333) and University College Hospital, University of Ibadan (UI/UCH/EC/17/0569). The purpose of the study was explained to the participants and they were informed of their right to withdraw from the study any time. Women unable to read or write had the consent read and explained to them in their local dialects. All participants provided informed consent. Confidentiality of information given by the subjects was maintained and anonymity ensured. The research assistants were also trained to ensure confidentiality.

## 3. Results

### 3.1. Socio-demographic Characteristics

A total of 427 questionnaires were administered but 400 of them were completely filled giving a response rate of 93.67%. Most of respondents 99 (24.75%) were within 35-39 years and are currently married. Two hundred and six (51.15%) of the enrolled women had tertiary education and 198 (49.5%) identified as Christians. The mean age of participants was  $37.42 \pm 7.51$ . Table 1 presents the results of social demographic variables of enrolled women.

**Table 1: Socio-demographic characteristics of study participants**

Variable	Frequency (N=400)	Percentage (%)
<b>Mean<math>\pm</math>SD</b>	37.42 $\pm$ 7.51	
<b>Age (Years)</b>		
15-19	4	1
20-24	19	4.75
25-29	47	11.75
30-34	78	19.5
35-39	99	24.75
40-44	96	24
45-49	57	14.25
<b>Educational level</b>		
Primary	35	8.75
Secondary	143	35.75
Tertiary	206	51.5
Others	16	4
<b>Marital status</b>		
Single	51	12.75
Married	236	59
Divorced	23	5.75
Widowed	36	9
Separated	54	13.5
<b>Religious status</b>		
Christian	198	49.5
Muslim	135	33.75
Traditionalist	6	1.5
Others	61	15.2
<b>Estimated Income</b>		
<NGN 30,999	113	28.25
NGN 31,000-100,999	248	62
NGN 101,000+	16	4
Don't know/did not disclose	23	5.75
<b>Type of partner</b>		
Spouse	204	51
Steady	79	19.75
Casual	115	28.75
None	2	0.5

### 3.2. Knowledge on Contraceptive Options

Ten questions were asked on contraceptive options and each correct answer was assigned a score of 1. Respondents were categorized based on their scores

as having good knowledge (score of 5-10 points), and poor knowledge (score of 4 and below). Table 2 presents the cumulative level of knowledge. There was a significant association between knowledge level of contraceptive options and utilization of contraceptives ( $p=0.007$ ).

### 3.3. Reproductive Plans

Respondents were asked if they have been sexually exposed or not sexually exposed since diagnosis of HIV. They were classified as being sexually exposed if they answered "yes." Respondents were asked if they had decided to have more children, the outcome of previous pregnancy, whether they were alive, miscarried or dead, if they had planned the pregnancy, and whether they had used contraceptives. The reproductive desire of the participants showed that more than half of the respondents or 286 (56.5%) had desire for children, with desire for 1-2 children (24.25%) and reasons for desire reported (Table 3). A good number of the women living with HIV had children ranging from one to five children. Among the women who had children, 31.49% ( $n = 97$ ) had planned their last pregnancy, whereas 68.51% ( $n = 211$ ) had an unplanned pregnancy (Table 3). Majority of the women (74%) were currently in a sexual relationship and had regular sexual partners, whereas 51.47% of them had changed their partners after HIV diagnosis. In all, 90.25% of the women did not disclose their HIV status to their sexual partners.

### 3.4. Utilization of Contraceptives

The number of contraceptives used by the respondents and reason for usage were highlighted. Approximately 248 (62%) respondents had used contraceptive some years back while 210 (52.5%) respondents were currently using contraceptives (Table 4). Figure 1 reflects the different methods of contraceptives utilized by WLHIV in the study.

### 3.5. Receipt of Family Support

The support received from family members by women living with HIV was explored using the Family APGAR function test. The Family APGAR was designed in 1978 by Smilkstein to explore the family functionality of study participants. The APGAR acronym refers to the five components of family function: adaptability (adaptability), cooperation (partnership), development (growth), affection (affection) and response capacity (resolution).<sup>20</sup> It was used to assess family support among the participants. Majority of respondents 226 (56.5%) disclosed functional family support, while minority of the women 58 (14.5%) described severely dysfunctional family support (Table 5).

### 3.6. Tests of Research Hypotheses

A significant association was found between knowledge level of contraceptive options and utilization of contraceptives (Table 6). This affirms that the knowledge level of contraceptive options of WLHIV was related to actual utilization of contraceptives ( $X^2 = 7.21$ ,  $df = 1$ ,  $p = .007$ ).

The results shown in Table 7 indicated a significant association between level of education and utilization of contraceptives among women living with HIV ( $X^2 = 21.02$ ,  $df = 3$ ,  $p = .001$ ). Therefore, level of education was associated with the extent to which WLHIV utilize contraceptives. Table 8 shows a significant association between the respondents' desires to have babies and their knowledge level of contraceptive options that prevent and reduce the risk of vertical transmission of HIV infection ( $X^2 = 13.717$ ;  $P = 0.03$ ).

## 4. Discussion

This study depicted similar findings in socio-demographic characteristics of the respondents

**Table 2: Cumulative levels of knowledge among study participants**

Level of Knowledge	Frequency (n)			Percentage		
	APIN (180)	IDI (220)	Total (400)	APIN (%)	IDI (%)	Total (%)
Good Knowledge	112	116	228	62.22	52.73	57
Poor Knowledge	68	104	172	37.78	47.27	43

**Table 3: Reproductive plans among study participants**

Variable	Category	Frequency (n)			Percentage (%)		
		IDI	APIN	Total (n)	IDI	APIN	Total(%)
Number of live children (1365 cases)	None	9	37	46	4.09	20.56	11.50
	1-3	148	106	254	67.27	58.89	63.50
	4-6	43	29	72	19.55	16.11	18.00
	≥7	20	8	28	9.09	4.44	7.00
Desire to have children	Yes	144	82	226	65.45	45.56	56.50
	No	76	98	174	34.55	54.44	43.50
After what time if yes (n=226)	Soon	29	6	35	20.14	7.32	15.49
	After 2 years	84	53	137	58.33	64.63	60.62
	I don't know	31	23	54	21.53	28.05	23.89
Number of more children desired	None	76	98	174	34.55	54.44	43.50
	1 – 2	103	56	159	46.82	31.11	39.75
	3 – 4	18	14	32	8.18	7.78	8
	≥5	23	12	35	10.45	6.67	8.75
Family support received	Almost always	113	68	181	51.36	37.78	45.25
	Some of the time	64	47	111	29.09	26.11	27.75
	Hardly ever	43	65	108	19.55	36.11	27
Number of previous pregnancies	None	5	2	7	2.27	1.11	1.75
	1-3	131	114	245	59.55	63.33	61.25
	4-6	55	37	92	25	20.56	23
	≥7	29	27	56	13.18	15	14
Intentions regarding pregnancy (n=393)	Planned	96	103	199	44.65	57.87	50.64
	Unplanned	119	75	194	55.35	42.13	49.36
Outcome of previous pregnancies (n=393)	Alive birth	182	136	318	84.65	76.41	80.92
	Still birth	10	24	34	4.65	13.48	8.65
	Induced abortion	23	16	39	10.70	8.99	9.92
	Spontaneous abortion	0	2	2	0	1.12	0.51
Counselling about contraceptives and reproductive plans	Yes	203	165	368	92.27	91.67	92
	No	17	15	32	7.73	8.33	8
Ever discussed family planning with partner	Yes	169	145	314	76.82	80.56	78.5
	No	51	35	86	23.18	19.44	21.5
Partner HIV Positive testing	Yes	185	143	328	84.09	79.44	82
	No	35	37	72	15.91	20.56	18
Disclosure of HIV status to partner	Yes	193	168	361	87.73	93.33	90.25
	No	27	12	39	12.27	6.67	9.75
Regular sexual partner	Yes	152	144	296	69.09	80.00	74
	No	68	36	104	30.91	20.00	26
Ever changed regular sexual partners since HIV Diagnosis (n=296)	Yes	95	57	152	60.13	41.30	51.35
	No	63	81	144	39.87	58.70	48.65
Given birth after HIV infection	Yes	72	35	107	32.73	19.44	26.75
	No	148	145	293	67.27	80.56	73.25

(Contd...)

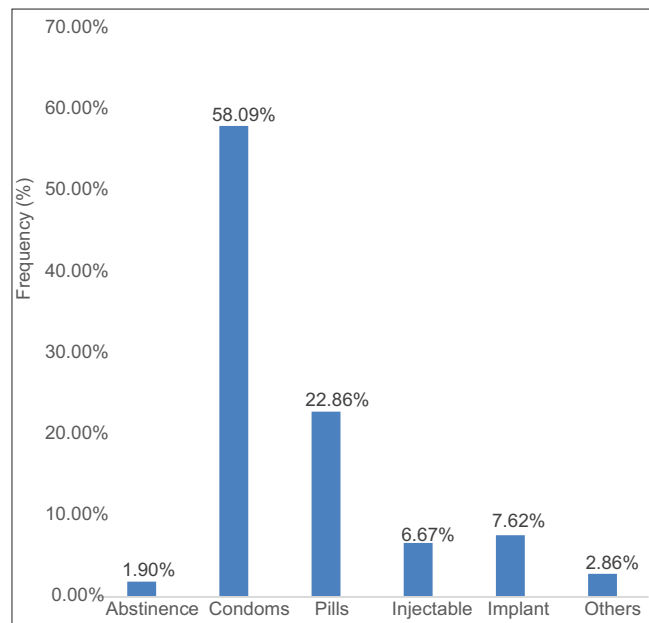
**Table 3: (Continued)**

Variable	Category	Frequency (n)			Percentage (%)		
		IDI	APIN	Total (n)	IDI	APIN	Total(%)
Number of children with HIV (827 Cases) from ever married respondents (n=349)	None	9	24	33	4.57	15.79	9.46
	1-2	104	83	187	52.79	54.61	53.58
	3-4	54	31	85	27.41	20.39	24.35
	≥5	30	14	44	15.23	9.21	12.61

**Table 4: Current contraceptive utilization rates among study participants**

Categories	Frequency (n)			Percentage (%)		
	IDI (114)	APIN (96)	Total (n)	IDI	APIN	Total (%)
Oral pills	26	22	48	22.81	22.92	22.86
Condom	70	51	121	61.40	53.13	57.62
Injectables	6	8	14	5.26	8.33	6.67
Implant/IUCD	4	12	16	3.51	12.5	7.62
Abstinence	3	1	4	2.63	1.04	1.90
Others	5	2	7	4.39	2.08	3.33

IDI=Infection Diseases Institute;APIN=AIDS Prevention Initiative in Nigeria

**Figure 1:** Types of contraceptives currently used by study participants

when compared with similar previous studies.<sup>10,12,21</sup> This implies that WLHIV have similar socio-demographic characteristics irrespective of the location of the study. The study showed that WLHIV

had good knowledge level of contraceptives available to them. This is consistent with the findings of a similar study in Nigeria.<sup>22</sup> This indicates that knowledge may be responsible for high level of utilization of

contraceptive. Good knowledge of contraceptives was also reported by a study conducted in Nepal.<sup>23</sup> Hence, this might be due to the integration of family planning services into HIV care and treatment program in the clinics.

This study revealed that majority of WLHIV desired to have more children since they are married.

Having many children by WLHIV may be related to knowledge about pregnancy risks HIV-positive women are exposed to during pregnancy. Prior related studies have reported similar results in Ethiopia,<sup>24</sup> Ghana,<sup>21</sup> and Brazil.<sup>25</sup> Hence, there may be need to include importance of having very few children in counselling WLHIV. This will help in reducing the risk of mother-to-child transmission. Also, knowledge of long acting methods was reported to be significantly associated with utilization<sup>26</sup> and women's knowledge of contraceptive was a significant predictor of their contraceptive practice.<sup>27</sup> All these are indications for improving knowledge of WLHIV on contraceptive options available to them. Furthermore, level of education of women in this study might have influenced their knowledge of contraceptives, since a high proportion of them have tertiary education

**Table 5: Cumulative levels of family support received by study participants**

Cumulative Level of Family Support	Frequency (n)	Percentage (%)
a. Functional Family	226	56.5
b. Dysfunctional Family	116	29
c. Severely dysfunctional Family	58	14.5

**Table 6: Levels of knowledge of contraceptive options and contraceptives utilization among study participants**

Variables	Contraceptive Utilization among WLHIV				Df	X <sup>2</sup>	P-value	Remark	Decision
	IDI		APIN						
	YES	NO	YES	NO					
Good knowledge	57	79	64	28					
Poor knowledge	54	30	14	74	1	7.21	0.007*	SIG	H <sub>0</sub> is rejected

X<sup>2</sup>=7.21; P<0.007; H<sub>0</sub> is rejected; IDI=Infection Diseases Institute; APIN=AIDS Prevention Initiative in Nigeria

**Table 7: Educational level and utilization of contraceptives among study participants**

Variables	Contraceptive Utilization among WLHIV				Df	X <sup>2</sup>	P-value	Remark	Decision
	IDI		APIN						
	YES	NO	YES	NO					
Primary	8	12	12	3					
Secondary	50	46	35	12					
Tertiary	72	27	69	38					
Others	1	4	1	10	3	21.02	0.001*	SIG	H <sub>0</sub> is rejected

IDI=Infection Diseases Institute; APIN=AIDS Prevention Initiative in Nigeria

**Table 8: Knowledge level of contraceptive options and desire for babies among study participants**

Variables	Desire for Babies among WLHIV				Df	X <sup>2</sup>	P-value	Remark	Decision
	IDI		APIN						
	YES	NO	YES	NO					
Good knowledge	86	52	61	29					
Poor knowledge	58	24	41	49	1	13.72	0.03*	SIG	H <sub>0</sub> is rejected

\*P-value=significant; IDI=Infection Diseases Institute; APIN=AIDS Prevention Initiative in Nigeria



as supported by other studies.<sup>28,29</sup> However, this was contrary to another study which reported that women with tertiary education had the least contraceptive use prevalence compared.<sup>30</sup> Hence, the association between education and contraceptive use found in this study could be attributed to high population of women with tertiary education. It is important for health care providers especially those working with WLHIV need to intensify educating their clients on contraceptives irrespective of their educational level.

WLHIV who had no desire for pregnancy are more likely to use long acting contraceptives.<sup>31,21,29</sup> This could be why there was a significant association between the respondents' desire for children and knowledge of contraceptive options. Hence, the need for WLHIV to know contraceptives options available to them so as to potentially make the right choice.

#### 4.1. Limitations of the Study

The conduct of this study was limited by the study design, where a participant's response may not be their true opinion so there is likely to have been social desirability bias. Women living with HIV may under-report their reproductive plan as a result of perceived negative social approval from the community. Moreover, the WLHIV may have been psychologically affected by the types of questions that were asked and this may explain why some

opted to withdraw from the interviews. Also, this study being a cross-sectional study rather than a longitudinal study could be a limitation to the study. A longitudinal study among WLHIV is recommended to understand the reproductive pattern as well as the effect of good knowledge of contraceptives on reproductive plan of WLHIV. Further research should be carried out on occupation, spousal's level of education and psychological factors that affect contraceptive utilization and reproductive plans among women living with HIV in the society.

## 5. Conclusion and Global Health Implications

These findings have important implications for sexual and reproductive health practice. This implied that WLHIV had adequate knowledge of contraceptives options available, however most WLHIV lack enough knowledge of concept of family planning which reflects in their reproductive desire with unwanted pregnancies. Findings of this study implied lack of dual contraceptive method could increase the risk of undesired pregnancy as well as HIV re-infection among WLHIV. The fact that respondents were still eager to have babies despite knowing health risks confirms absolute need for health care professionals to concentrate on providing health care services capable of preventing horizontal and vertical transmissions as well as reducing poor pregnancy outcomes especially for women with no living child. As major providers of ART and PMTCT care, nurses should ensure WLHIV are adequately counselled on the importance of preventing unwanted pregnancy and planned pregnancy which involves partners. Nurses should intensify their campaign on need to plan pregnancy. Reproductive planning should also be encouraged among this population.

#### Compliance with Ethical Standards

**Conflicts of Interests:** The authors declare that they have no conflicts of interest relevant to this study to report. **Funding:** None. **Ethics Approval:** Ethical approval was obtained from the College of Medicine, University of Lagos, Idi-Araba (CMUL/HREC/02/18/333) and University College Hospital, University of Ibadan (UI/UCH/EC/17/0569). Informed consent was obtained from the participants. **Acknowledgements:** None.

### Key Messages

- Good knowledge of contraceptive options available to women living with HIV (WLHIV) is important for them to make healthy reproductive plans.
- Accessibility and availability of different contraceptive methods for WLHIV may increase the risk of undesired pregnancy and HIV re-infection.
- In order to reduce maternal, child and neonatal mortality and morbidity and achieve the third sustainable development goal, attention should be paid to the reproductive health of women and adolescents living with HIV in Nigeria.

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