

Contraceptive Use of HIV-Positive Women Attending an HIV Treatment Center in Osogbo, Nigeria

Samuel Anu Olowookere, Akindele Amos Ajayi¹, Ajibola Idowu², Adeola Olajumoke Ajayi³, Babatunde A. Afolabi¹

Department of Community Health, Obafemi Awolowo University, Ile-Ife, Departments of ¹Family Medicine and ³Psychiatry, LAUTECH Teaching Hospital, Osogbo, ²Department of Community Medicine, Bowen University, Iwo, Nigeria

Abstract

Background: Access to combination antiretroviral therapy (ART) enables HIV-positive women to live longer in good health. Some of these women are sexually active having unintended pregnancies and unsafe abortions because of not using contraceptives. **Objective:** This study assessed pattern of contraceptive use by HIV-positive women of reproductive age group attending an HIV treatment center at Ladoke Akintola University of Technology Teaching Hospital, Osogbo, Nigeria. **Materials and Methods:** A descriptive cross-sectional study of 400 HIV-positive women that completed an interviewer-administered semi-structured questionnaire on awareness and use of contraceptives. Data collected were analyzed with SPSS version 17. **Results:** Majority, 217 (54.3%), had been pregnant since enrollment with 120 (55.3%) having an induced abortion. Majority, 378 (94.5%), were aware of contraception with health workers as the source of awareness being 204 (54%). Although 313 (82.8%) desire to use a contraceptive, 281 (74.3%) currently used a contraceptive with male condom, 130 (34.4%), being the most common type used. Selected factors significantly associated with contraceptive use included age 35 years and above (odds ratio [OR] = 2.58, 95% confidence interval [CI] = 1.18–5.63, $P = 0.018$), higher education (OR = 4.48, 95% CI = 2.80–7.16, $P = 0.0001$), being unmarried (OR = 4.34, 95% CI = 2.74–6.88, $P = 0.0001$), skilled worker (OR = 4.64, 95% CI = 2.76–7.81, $P = 0.0001$), higher income (OR = 2.15, 95% CI = 1.20–3.82, $P = 0.01$), and increasing duration on highly active ART 6–12 months (OR = 8.88, 95% CI = 4.50–17.50, $P = 0.0001$) and >12 months (OR = 4.37, 95% CI = 2.27–8.43, $P = 0.0001$). **Conclusions:** Some sexually active HIV-positive women were not using contraceptives. It is necessary to increase contraceptive awareness and use among this vulnerable population.

Keywords: Abortion, awareness, contraception, unintended pregnancy, women living with HIV

INTRODUCTION

The countries in the resource-limited settings, such as Nigeria, exhibit rapid population growth, high unmet need for family planning, and low contraceptive use.^[1–6] The observed high population growth is due to high fertility rate, high birth rate, and steady decline in the high death rate. The rate of population growth in sub-Saharan Africa is one of the highest in the world when compared to the rest of the world.^[1,7,8]

The increasing availability and access to combination highly active antiretroviral therapy (HAART) by people living with HIV/AIDS (PLWHA) has changed HIV/AIDS from a deadly disease to a chronic treatable disease. Good adherence to these lifesaving drugs enables PLWHA to live virtually normal life with their lifespan approaching that of the general population.^[9–11] There is a higher HIV prevalence among young women than men worldwide.^[11,12] Previous studies on fertility

intention both locally and abroad have reported that PLWHA desire to have children despite the risk of HIV transmission to these children.^[13,14] However, the availability of prevention of mother-to-child transmission (PMTCT) of HIV has reduced markedly the proportion of these children that become HIV positive.^[15] The awareness and availability of the PMTCT service to the HIV-positive women have led to higher sexual activity resulting in more unintended pregnancies due to nonavailability or high cost of modern contraceptives.^[16–22]

Address for correspondence: Dr. Samuel Anu Olowookere, Department of Community Health, Obafemi Awolowo University, Ile-Ife, Nigeria.

E-mail: sanuolowookere@yahoo.com

This is an open access journal, and articles are distributed under the terms of the Creative Commons Attribution-NonCommercial-ShareAlike 4.0 License, which allows others to remix, tweak, and build upon the work non-commercially, as long as appropriate credit is given and the new creations are licensed under the identical terms.

For reprints contact: reprints@medknow.com

How to cite this article: Olowookere SA, Ajayi AA, Idowu A, Ajayi AO, Afolabi BA. Contraceptive use of HIV-positive women attending an HIV treatment center in Osogbo, Nigeria. *Libyan Int Med Univ J* 2020;5:8–14.

Received: 25-Sep-2019 **Revised:** 04-Dec-2019 **Accepted:** 18-Feb-2020

Published: 13-Mar-2020

Access this article online

Quick Response Code:



Website:
journal.limou.edu.ly

DOI:
10.4103/LIUIJ.LIUIJ_21_19

Several studies have reported that these sexually active women without fertility intention usually get pregnant, thereby seeking unsafe abortion from unskilled workers or in unauthorized facilities, especially in countries such as Nigeria where abortion is illegal. These unsafe abortions usually lead to disability or death.^[23,24]

However, contraceptive use and factors associated with it among the HIV-positive women have not been well understood in Nigeria. This makes the management of the sexual and reproductive health of HIV-positive women to become critical in order to reduce HIV transmission and maternal mortality. Since small family size has been noted as a prerequisite to higher per capital income which makes it essential to provide necessary contraceptives to all women in reproductive age group whether HIV positive or negative,^[14,21] it is necessary to conduct more study on contraceptive practices of HIV-positive women, hence this study.

This study assessed the pattern of contraceptive use by HIV-positive women of reproductive age group attending an HIV treatment center at Ladoké Akintola University of Technology (LAUTECH) Teaching Hospital, Osogbo, Nigeria.

MATERIALS AND METHODS

Study site

LAUTECH Teaching Hospital, Osogbo, Osun State, Nigeria, was established in 2001. The hospital provides a spectrum of clinical, surgical, and laboratory services to the general public in Osun State and other neighboring states. It trains medical doctors as well as other health workers at the undergraduate and postgraduate levels.

The HIV treatment center of the hospital, opened to the general public in July 2007, was established by the Institute of Human Virology with the support of the Federal Government of Nigeria. The center provides free comprehensive HIV care to PLWHA in Osun State and other neighboring states. The center opens every Tuesday and Thursday from 8 a.m. to 4 p.m. with emergency care provided daily on a 24-h basis. All women are encouraged to undergo opt-out provider-initiated free HIV counseling and testing with the HIV-positive pregnant women enrolled in the PMTCT program.^[9] About 1500 women were on care, 1070 on HAART with 920 in the reproductive age group. Recently, women in the reproductive age group routinely have family planning included in their counseling sessions. Osun State currently has an HIV prevalence rate of 0.9%.^[25]

Study design

A descriptive cross-sectional study was employed.

Study population

These were HIV-positive women in the reproductive age group (15–49 years).

Inclusion criteria

Consenting HIV-positive women in the reproductive age group were included in the study.

Exclusion criteria

HIV-positive women who were pregnant, required emergency care, or were too ill to participate were excluded.

Sample size calculation

The required sample size was calculated using the Leslie Kish formula for estimating single proportions.^[26]

$$n = Z^2pq/d^2$$

n = minimum sample size

Z = standard relative deviate at 95% confidence level = 1.96

p = proportion of condom use among HIV-positive women = 50.7% = 0.507^[20]

$$q = 1 - p = 1 - 0.507 = 0.493$$

d = level of precision/margin of error = 5%

$$\text{Thus, } n = 1.96^2 \times 0.507 \times 0.493 / 0.0025 = 384.$$

However, a sample size of 400 was estimated for the study after nonresponse/attrition was taken into consideration.

Sampling technique

Four hundred participants were recruited using systematic sampling method over a 3-month period.

Data collection and analysis

Data were collected using a pretested interviewer-administered questionnaire that included sociodemographic information, awareness and use of contraceptives, and factors associated with contraceptive use. The questionnaire was pretested and face validity was done by the antiretroviral therapy coordinator and authors to ensure that ambiguous questions were either rephrased or removed. The survey questionnaire was written in English, translated to Yoruba for the non-English speaking population, and back-translated to English. The questionnaires were completed in a consulting room designed to ensure patient's privacy. Three medical doctors trained in data collection administered the questionnaire to the participants.

The data were field-edited daily and statistical analysis was done using SPSS version 17 (SPSS Inc., Chicago, IL, USA). Simple descriptive statistics was done to give the sociodemographic characteristics of the study participants. Chi-square test was used to compare categorical variables while multivariate logistic regression model was built to identify significant factors associated with contraceptive use. Independent variables in the model were selected based on whether they were significant at bivariate level and/or whether they have been reported in literature as significant predictors of contraceptive use. The level of statistical significance was set at $P < 0.05$. Odds ratio (OR) and 95% confidence interval (CI) were obtained to identify factors associated with contraceptive use among the study population.

Ethical approval

Ethical approval was obtained from the Ethical and Review Committee of LAUTECH Teaching Hospital. However, written consent was obtained from the respondents before the

commencement of questionnaire administration. Data were kept in a passworded computer.

RESULTS

A total of 400 respondents with completed data were analyzed. Their mean age (standard deviation) was 26.8 (8.2) years ranging 18–47 years with majority, 180 (45%), between 18 and 24 years' age group. Most respondents, 177 (44.2%), were married, 204 (51%) had secondary education, 179 (44.7%) skilled workers, and 240 (60%) Muslims, with 309 (77.3%) earned <\$50. Majority, 246 (61.5%), had at least one child presently with 202 (50.5%) being on HAART <6 months [Table 1].

Table 2 shows the pregnancy occurrence and contraceptive use among participants. Majority, 217 (54.3%), had been pregnant since enrollment into care with 120 (55.3%) having an induced abortion. Majority, 378 (94.5%), were aware of contraceptive methods with 204 (54%) health workers as source of awareness. Although 313 (82.8%) desire a

contraceptive, 281 (74.3%) currently use a contraceptive giving a contraceptive prevalent rate of 70.3% (281/400). Contraceptive methods currently used were male condom 130 (34.4%), injectables 66 (23.5%), oral contraceptive pills 39 (13.8%), intrauterine contraceptive devices 10 (3.6%), natural 30 (10.7%), and traditional 6 (2.1%). None of the respondents used female condom. The major reason for using a contraceptive was based on health workers' advice, 164 (52.4%), while partner's objection, 35 (53.8%), was the reason for nonuse of contraceptives.

Table 3 shows the sociodemographic variables and other variables associated with contraceptive use among respondents. Variables significantly associated with current contraceptive use include increasing age, higher education, being unmarried, skilled worker, earning higher income, increasing duration on HAART, and having at least one child currently ($P < 0.05$).

Table 4 reports the logistic regression analysis of selected factors associated with contraceptive use among respondents. These factors significantly associated with contraceptive use included age 35 years and above (OR = 2.58, 95% CI = 1.18–5.63, $P = 0.018$), higher education (OR = 4.48, 95% CI = 2.80–7.16, $P = 0.0001$), being unmarried (OR = 4.34, 95% CI = 2.74–6.88, $P = 0.0001$), skilled worker (OR = 4.64, 95% CI = 2.76–7.81, $P = 0.0001$), higher income (OR = 2.15, 95% CI = 1.20–3.82, $P = 0.01$), and increasing duration on HAART 6–12 months (OR = 8.88, 95% CI = 4.50–17.50, $P = 0.0001$) and >12 months (OR = 4.37, 95% CI = 2.27–8.43, $P = 0.0001$).

Variable	Frequency, n (%)
Age group (years)	
18-24	180 (45.0)
25-34	170 (42.5)
≥35	50 (12.5)
Level of education	
None	19 (4.8)
Primary	93 (23.2)
Secondary	204 (51.0)
Tertiary	84 (21.0)
Marital status	
Single	174 (43.4)
Married	177 (44.2)
Divorced	37 (9.4)
Widowed	12 (3.0)
Occupation	
Unemployed	150 (37.5)
Unskilled	71 (17.8)
Skilled	179 (44.7)
Religion	
Islam	240 (60.0)
Christianity	159 (39.7)
Traditional	1 (0.3)
Income/month (USD)	
<50	309 (77.3)
≥50	91 (22.7)
Has child/children presently	
Yes	246 (61.5)
No	154 (38.5)
Duration on HAART (months)	
<6	202 (50.5)
6-12	121 (30.3)
>12	77 (19.2)

HAART: Highly active antiretroviral therapy

DISCUSSION

This study assessed the pattern of awareness and use of contraceptives among HIV-positive women. This study reported that despite most participants being aware, some were not using contraceptives. When compared with previous studies, the findings aligned with studies reporting high awareness but low contraceptives use. For instance, Nkwabong *et al.*, 2015, and Laryea *et al.*, 2014, reported that 98% and 74% of their study participants, respectively, were aware of contraceptives with 50.7% and 42.6% using it.^[19,20] It is paramount that all reproductive age women, whatever their HIV status, should be aware of and use modern contraceptives. This reduces the possibility of unintended pregnancies and vertical transmission of HIV to their children.^[18,19,21]

This study reported that over half of the respondents reported induced abortions since enrollment into care. Wanyenze *et al.*, 2015, Warren *et al.*, 2013, and Mersha *et al.*, 2019, reported 40%, 20.7%, and 12.9% had induced abortions among their study population, respectively.^[14,18,22] This emphasized the high unmet contraceptive need among our study population. Furthermore, studies have reported difficulties faced by women seeking abortion care, especially in settings where abortion care is illegal.^[23,24] The need to reduce the likelihood of maternal-to-child transmission of HIV infection makes the awareness and use of contraceptives more important in this

Table 2: Pregnancy occurrence and contraceptive use among participants

Variable	Frequency, n (%)
Was pregnant since receiving care at HIV treatment center (n=400)	
Yes	217 (54.3)
No	183 (45.7)
Had induced abortion (n=217)	
Yes	120 (55.3)
No	97 (44.7)
Reasons for being pregnant (n=217)	
Desire to have a child	154 (71.0)
Partner request	34 (15.7)
Suffered death of a child	15 (6.9)
To conceal HIV status	14 (6.4)
Aware of contraceptive method (n=400)	
Yes	378 (94.5)
No	22 (5.5)
Sources of information* (n=378)	
Health workers (doctors, nurses, health educators)	204 (54.0)
Partner	40 (10.6)
Friends/fellow patient	35 (9.3)
Mass media (radio, television, newspapers)	99 (26.1)
Desire to use a contraceptive (n=378)	313 (82.8)
Current contraceptive use (n=313)	281 (74.3)
Method currently used* (n=281)	
Male condom	130 (34.4)
Injectable	66 (23.5)
Oral contraceptive pills	39 (13.8)
IUCD	10 (3.6)
Natural method	30 (10.7)
Traditional method	6 (2.1)
Reasons for using contraceptive (n=313)	
Health workers' advice	164 (52.4)
Spousal request	90 (28.8)
Decided to use contraceptive after having induced abortion (n=120)	84 (70.0)
HIV status	47 (15.0)
Reasons for nonuse of contraceptive (n=65)	
Partner's objection	35 (53.8)
Don't know how to get them	21 (32.3)
Cost	9 (13.9)

*Multiple response. IUCD: Intrauterine contraceptive device

vulnerable population. The finding in this study that health workers are the main source of information on contraceptives is similar to findings in previous studies. For instance, Laryea *et al.*, 2014, and Shehu *et al.*, 2016, reported that 74% and 60.2% received contraceptive information from their health-care providers, respectively.^[19,27] This indicates that more training on contraceptives should target health workers to improve the accuracy of information given by them to these clients.

This study reported partner's objection as the major reason the HIV-positive women do not use contraceptives. This information has been reported by previous studies signifying

Table 3: Sociodemographic variables and other variables associated with contraceptive use among respondents

Variable	Current contraceptive use		Test statistics
	Yes (%)	No (%)	
Age group (years)			
15-24	115 (63.8)	65 (36.2)	7.663; 0.022*
25-34	125 (73.5)	45 (26.5)	
≥35	41 (82)	9 (18)	
Highest education level			
None/primary	52 (46.4)	60 (53.6)	42.236; 0.0001*
Secondary/tertiary	229 (79.5)	59 (19.5)	
Current marital status			
Married	95 (53.7)	82 (46.3)	41.749; 0.0001*
Not married	186 (83.4)	37 (16.6)	
Occupation			
Unemployed	82 (54.7)	68 (45.3)	34.713; 0.0001*
Unskilled	48 (67.6)	23 (32.4)	
Skilled	151 (84.4)	28 (15.6)	
Income (USD)			
<50	207 (70)	102 (30)	6.906; 0.009*
≥50	74 (81.1)	17 (18.9)	
Religion			
Islam	159 (66.2)	81 (33.8)	4.879; 0.058**
Christianity	121 (76.1)	38 (23.9)	
Traditional religion	1 (100)	0 (0)	
Has child/children presently			
Yes	181 (73.4)	65 (26.6)	5.738; 0.017*
No	100 (64.9)	54 (35.1)	
Duration on HAART (months)			
<6	107 (53)	95 (47)	22.022; 0.0001*
6-12	110 (91)	11 (9)	
>12	64 (83.1)	13 (16.9)	
Partners' HIV status			
Positive	225 (71.7)	89 (28.3)	1.382; 0.240*
Negative	56 (65.1)	30 (34.9)	
Partner's awareness of respondent's HIV status			
Yes	204 (71.1)	83 (28.9)	0.335; 0.563
No	77 (68.1)	36 (31.9)	

*Pearson's χ^2 , **Fisher's exact test. HAART: Highly active antiretroviral therapy

the need to target their partners in contraceptive education.^[2,3,16] Partner notification about the HIV women's contraceptive need will increase contraceptive use if accurate information is given to them. While previous studies have recognized men to be responsible for the large proportion of ill reproductive health suffered by their female partners, their involvement helps not only in accepting a contraceptive but also in its effective use and continuation.^[28-30]

None of the women were reported to use female condom while male condom was the most common contraceptive used. This shows that female condom remains unpopular among women as reported in previous studies.^[31-33] Since male and female condoms have been shown to be effective in preventing both

Table 4: Logistic regression analysis of selected factors associated with contraceptive use among respondents

Variable	OR	95% CI	P
Age group (years)			
15-24 (ref)	1		
25-34	1.570	0.994-2.479	0.053
≥35	2.575	1.177-5.634	0.018
Highest level of education			
None/primary (ref)	1		
Secondary/tertiary	4.478	2.802-7.157	0.0001
Marital status			
Not married	4.339	2.739-6.875	0.0001
Married (ref)	1		
Occupation			
Unemployed (ref)	1		
Unskilled	1.659	0.923-2.980	0.091
Skilled	4.638	2.756-7.806	0.0001
Income (USD)			
<50 (ref)	1		
≥50	2.145	1.203-3.823	0.01
Duration on HAART (months)			
<6 (ref)	1		
6-12	8.879	4.504-17.500	0.0001
>12	4.371	2.266-8.433	0.0001

Ref: Reference category, OR: Odds ratio, CI: Confidence interval, HAART: Highly active antiretroviral therapy

HIV transmission and unwanted pregnancy with the female condom not really requiring the male cooperation as in using the male condom, it will be good if more awareness and access to female condom is given to these women.

Factors associated with contraceptive use include increasing age, higher education, being unmarried, being a skilled worker, earning higher income, and being on HAART 6 months and above. Previous studies have reported an unmet need for contraceptives among women who need them.^[34,35] Low income reduces access to contraceptives as the underemployment currently prevalent among young women can make it difficult if not impossible for them to decide about their reproductive and family health needs. Efforts targeted at improving the socioeconomic status of these women will increase contraceptive awareness and use. The study finding that being married does not translate to high contraceptive use among the respondents could partly be explained by their partners' unwillingness to allow the use of contraceptives. The study finding that HIV-positive women on HAART 6 months and above tend to use contraceptives could be explained by the recent inclusion of family planning during PMTCT visits to encourage spacing of birth among the study population.

Limitation of the study

This study is limited by its cross-sectional design as no cause-effect relationship could be established. Furthermore, some respondents could have given socially acceptable responses to some questions differing from their actual behavior despite every effort made to explain the study

purpose. Furthermore, their partners' contraceptive behavior could not be assessed since they were not interviewed.

CONCLUSIONS

Unintended pregnancy and inadequate contraceptive use were reported among HIV-positive women. It is necessary to increase contraceptive awareness and use among this vulnerable population. Further contraceptive education targeting health workers and the male partners of these women will increase contraceptive use, especially the female condom if made available at an affordable cost to the respondents. The current practice of discussing family planning during counseling sessions and PMTCT visits should be evolved into integrating family planning and HIV care.

Financial support and sponsorship

Nil.

Conflicts of interest

There are no conflicts of interest.

REFERENCES

- Goliber T, Sanders R, Ross J. Analyzing family planning needs in Nigeria: Lesson for repositioning family planning in Sub-Saharan Africa. United States Agency for International Development/Health Policy Initiative Task Order 1. 2009.
- Alemayehu M, Belachew T, Tilahun T. Factors associated with utilization of long acting and permanent contraceptive methods among married women of reproductive age in Mekelle town, Tigray region, North Ethiopia. *BMC Pregnancy Childbirth* 2012;12:6.
- Austin A. Unmet contraceptive need among married Nigerian women: An examination of trends and drivers. *Contraception* 2015;91:31-8.
- Okech TC, Wawire NW, Mburu TK. Contraceptive use among women of reproductive age in Kenya's city slums. *Int J Bus Soc Sci* 2011;2:22-43.
- Olowookere SA, Ijadunola MY, Olowokere AE, Oloju MD, Opaleye OA, Shabi OM, *et al.* Awareness, use and choice of emergency contraceptive among women in Ile-Ife, Nigeria. *Nigerian J Fam Pract* 2018;9:18-24.
- Olugbenga-Bello AI, Abodunrin OL, Adeomi AA. Contraceptive practices among women in rural communities in South-Western Nigeria. *Glob J Med Res* 2011;11:1-8.
- Bongaarts J, Cleland J, Townsend JW, Bertrand JT, Gupta MD. Family planning programs for the 21st century. New York: Population Council; 2012. p. 21.
- Moreland S, Smith E, Sharma S. World population prospects and unmet need for family planning. Washington, DC: Futures Group; 2010. p. 62.
- Afolabi BA, Afolabi MO, Afolabi AA, Odewale MA, Olowookere SA. Role of family dynamics on adherence to highly active antiretroviral therapy among people living with HIV/AIDS at a tertiary hospital in Osogbo, South-West Nigeria. *Afri Health Sci* 2013;13:920-6.
- Abeje G, Motbaynor A. Demand for family planning among HIV positive women on ART: The case of South Gondar and North Wollo Zones Amhara region. *BMC Res Notes* 2016;9:43.
- Nieves CI, Kaida A, Seage GR 3rd, Kabakyenga J, Muyindike W, Boum Y, *et al.* The influence of partnership on contraceptive use among HIV-infected women accessing antiretroviral therapy in rural Uganda. *Contracept* 2015;92:152-9.
- UNAIDS. Fact Sheet Global AIDS Update. UNAIDS; 2019. Available from: <https://www.unaids.org/en/resources/fact-sheet>. [Last accessed on 2019 Sep 25].
- Olowookere SA, Abioye-Kuteyi EA, Bamiwuye SO. Fertility intentions of people living with HIV/AIDS at Osogbo, Southwest Nigeria. *Eur J Contracept Reprod Health Care* 2013;18:61-7.
- Wanyenze RK, Matovu JK, Kanya MR, Tumwesigye NM,

- Nannyonga M, Wagner GJ. Fertility desires and unmet need for family planning among HIV infected individuals in two HIV clinics with differing models of family planning service delivery. *BMC Womens Health* 2015;15:5.
15. UNAIDS. Start Free Stay Free AIDS Free 2019 Report. Available from: https://www.unaids.org/sites/default/files/media_asset/20190722_UNAIDS_SFSFAF_2019_en.pdf. [Last accessed 2019 Sep 25].
 16. Gelagay AA, Koye DN, Yeshita HY. Demand for long acting contraceptive methods among married HIV positive women attending care at public health facilities at Bahir Dar City, Northwest Ethiopia. *Reprod Health* 2015;12:1-9.
 17. Kongnyuy EJ, Soskolne V, Adler B. Hormonal contraception, sexual behaviour and HIV prevalence among women in Cameroon. *BMC Womens Health* 2008;8:19.
 18. Mersha AG, Erku DA, Belachew SA, Ayele AA, Gebresillasse BM, Abegaz TM. Contraceptive use among HIV-positive and negative women: Implication to end unintended pregnancy. *Contracept Reprod Med* 2019;4:1-8.
 19. Laryea DO, Amoako YA, Spangenberg K, Frimpong E, Kyei-Ansong J. Contraceptive use and unmet need for family planning among HIV positive women on antiretroviral therapy in Kumasi, Ghana. *BMC Womens Health* 2014;14:126.
 20. Nkwabong E, Minda V, Fomulu JN. Knowledge, attitudes and practices of contraception by HIV positive women followed in a Cameroon region with high illiteracy rate: A cross sectional study. *Pan Afr Med J* 2015;20:143.
 21. Hailemariam A, Haddis F. Factors affecting unmet need for family planning in Southern Nations, nationalities and peoples region, Ethiopia. *Ethiop J Health Sci* 2011;21:77-89.
 22. Warren CE, Abuya T, Askew I; Integra Initiative. Family planning practices and pregnancy intentions among HIV-positive and HIV-negative postpartum women in Swaziland: A cross sectional survey. *BMC Pregnancy Childbirth* 2013;13:150.
 23. Kawanaugh MI, Jerman J, Frohworth L. 'It is not something you talk about really': Information barrier encountered by women who travel long distances for abortion care. *Contracept* 2019;100:79-84.
 24. Meng CX, Gemzell-Danielsson K, Stephansson O, Kang JZ, Chen QF, Cheng LN. Emergency contraceptive use among 5677 women seeking abortion in Shanghai, China. *Hum Reprod* 2009;24:1612-8.
 25. NACA-Nigeria. Nigeria Prevalent Rate. Available from: <https://naca.gov.ng/nigeria-prevalence-rate>. [Last accessed on 2020 Jan 08].
 26. Kish L. Survey Sampling. N.Y.: John Wiley and Sons; 1965.
 27. Shehu AU, Joshua IA, Umar Z. Knowledge of contraception and contraceptive choices among human immunodeficiency virus-positive women attending antiretroviral clinics in Zaria, Nigeria. *SubSaharan Afr J Med* 2016;3:84-90.
 28. Vouking MZ, Evina CD, Tadenfok CN. Male involvement in family planning decision making in sub-Saharan Africa – What the evidence suggests. *Pan Afr Med J* 2014;19:349.
 29. Ijadunola MY, Abiona TC, Ijadunola KT, Afolabi OT, Esimai OA, OlaOlorun FM. Male involvement in family planning decision making in Ile-Ife, Osun State, Nigeria. *Afr J Reprod Health* 2010;14:43-50.
 30. Vouking MZ, Evina CD, Tadenfok CN. Male involvement in family planning decision making in sub-Saharan Africa – What the evidence suggests. *Pan Afr Med J* 2014;19:349.
 31. Targang EE, Bain LE. Factors that influence utilization of the female condom among senior secondary school female students in urban Cameroon. *Am J Health Res* 2014;2:125-33.
 32. Ananga MK, Kugbey N, Akporlu MJ, Asante KO. Knowledge, acceptance and utilization of the female condom among women of reproductive age in Ghana. *Contracept Reprod Med* 2017;2:1-9.
 33. Moore L, Beksinska M, Rumphs A, Festin M, Gollub EL. Knowledge, attitudes, practices and behaviors associated with female condoms in developing countries: A scoping review. *Open Access J Contracept* 2015;6:125-42.
 34. Singh S, Darroch JE. Adding it up: Costs and benefits of contraceptive services. Guttmacher Institute and UNFPA. 2012.
 35. Habte D, Namasasu J. Family planning use among women living with HIV/AIDS: Knowing HIV status helps – Results from a national survey. *Reproductive Health* 2015;12:1-11.

ملخص المقال باللغة العربية

استخدام وسائل منع الحمل بواسطة نساء إيجابيات لفيروس نقص المناعة البشرية يحضرن مركزاً لعلاج فيروس نقص المناعة البشرية في أوسوغبو، نيجيريا

المؤلفون:

Samuel Anu Olowookere, Akindele Amos Ajayi¹, Ajibola Idowu², Adeola Olajumoke Ajayi³, Babatunde A. Afolabi¹

Department of Community Health, Obafemi Awolowo University, Ile-Ife, Departments of ¹Family Medicine and ³Psychiatry, LAUTECH Teaching Hospital, Osogbo, ²Department of Community Medicine, Bowen University, Iwo, Nigeria

المؤلف المسؤول: Dr. Samuel Anu Olowookere, Department of Community Health, Obafemi Awolowo University, Ile-Ife, Nigeria. E-mail: sanuolowookere@yahoo.com.

الخلفية: يتيح العلاج المتعدد بمضاد الفيروسات للنساء المصابات بفيروس نقص المناعة البشرية العيش لفترة أطول في صحة جيدة. بعض هؤلاء النساء ينشطن جنسياً بعد الحمل غير المقصود والإجهاض غير الآمن بسبب عدم استخدام وسائل منع الحمل.

الهدف: قيمت هذه الدراسة نمط استخدام وسائل منع الحمل من قبل النساء المصابات بفيروس نقص المناعة البشرية من الفئة العمرية الإنجابية اللاتي يحضرن أحد مراكز علاج فيروس نقص المناعة البشرية في مستشفى لادوك أكينتولا التعليمي لجامعة التكنولوجيا، أوسوغبو، نيجيريا.

الإعدادات والطرق: دراسة وصفية مستعرضة لـ 400 امرأة مصابة بفيروس نقص المناعة البشرية أكملت استبيان شبه منظم يديره القائم على المقابلة حول الوعي باستخدام وسائل منع الحمل واستخدامها. وقد تم تحليل البيانات التي تم جمعها بواسطة SPSS الإصدار 17

النتائج: الغالبية، 217 (54.3%)، كن حوامل منذ التسجيل مع 120 (55.3%) تعرضن للإجهاض المستحث. كانت الغالبية، 378 (94.5%)، على دراية بوسائل منع الحمل، وأن العاملين الصحيين مصدر للوعي (54%). على الرغم من رغبة 313 (82.8%) في استخدام وسائل منع الحمل، إلا أن 281 (74.3%) يستخدمون حالياً وسائل منع الحمل الذكورية، 130 (34.4%) يستعملنها بكونها النوع الأكثر شيوعاً. شملت العوامل المحددة المرتبطة بشكل كبير باستخدام وسائل منع الحمل سن 35 عاماً فما فوق (نسبة الأرجحية $OR=2.58$ ، فاصل الثقة 95% $CI=1.18-5.63$ ، $P=0.018$)، التعليم العالي ($OR=4.48$ ، فاصل الثقة 95% $CI=2.80-7.16$ ، $P=0.0001$)، عدم الزواج ($OR=4.34$ ، فاصل الثقة 95% $CI=2.74-6.88$ ، $P=0.0001$)، عامله ماهرة ($OR=4.64$ ، فاصل الثقة 95% $CI=2.76-7.81$ ، $P=0.0001$)، دخل عال ($OR=2.15$ ، فاصل الثقة 95% $CI=1.20-3.82$ ، $P=0.01$)، ومدة المعالجة الفعالة 6-12 شهراً ($OR=8.88$ ، فاصل الثقة 95% $CI=4.50-17.5$ ، $P=0.0001$) ومدة المعالجة الفعالة أكثر من 12 أشهر ($OR=4.37$ ، فاصل الثقة 95% $CI=2.27-8.43$ ، $P=0.0001$).

الاستنتاجات: بعض النساء النشطات جنسياً المصابات بالفيروس لم يكن يستخدمن وسائل منع الحمل. من الضروري زيادة الوعي بوسائل منع الحمل واستخدامها بين السكان المعرضين للخطر.

الكلمات المفتاحية: الإجهاض، الوعي، منع الحمل، الحمل غير المقصود، النساء المصابات بفيروس نقص المناعة البشرية.