

Contraceptive behavior, practices and associated factors among Nigerian women living with human immunodeficiency virus infection

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ABSTRACT

Aim: Studies outside Nigeria reports that approximately 70% of human immunodeficiency virus (HIV) positives are sexually active and that their use of effective contraception is variable. Unplanned pregnancy and its complications are also common. However, no published study in Nigeria has evaluated the contraceptive use among of HIV positive women. This study aims to establish the pattern of use, knowledge and associated factors of contraception among HIV positive women. **Materials and Methods:** A cross-sectional questionnaire based study in a busy HIV Treatment Centre in cosmopolitan city of Lagos, Nigeria. **Results:** The contraceptive awareness was high at 94.6%; however, the use rate was moderate at 50.6%. Condom (52.9%) and injectable contraceptive (31.4%) were the most commonly used methods. Weight gain (2.4%) and condom slip off (2.4%) were the most common side-effect reported. Having more than 3 children (odd ratio [OR]: 2.6), being in the program for at least 3 years (OR: 2.0) and previous use of contraception (OR: 2.6) were found to be independently associated with current use of contraception. Women with less than secondary education (OR; 0.2; 0.3-0.5) and a HIV positive partner (OR: 0.4; 0.3-0.6) are less likely to use contraception. **Conclusion:** Contraceptive knowledge and awareness (94.6%) among this women is high, however, the use rate is low at (50.6%). Condom (52.9%) and Injectable contraceptive (31.4%) were the preferred method among women. Having 3 living children, at least a secondary education, negative partner and being in the program for at least 3 years were associated with the use of contraception.

Key words: Contraception, human immunodeficiency virus infection, Nigeria, women

INTRODUCTION

The current human immunodeficiency virus/acquired immunodeficiency syndrome (HIV/AIDS) epidemic is easily the most important public health challenge globally, more especially so in developing countries. For countries in sub-Saharan Africa, where about 80% of the 38 million persons infected with HIV globally live, it is a major

developmental set-back. More worrisome is the fact that about 95% of all new infection globally occur in the sub-Saharan Africa.^[1,2]

Nigeria has the second highest global HIV burden. Approximately, 3.5 million people are living with HIV infection; over 60% of them are women within the reproductive age. In addition, it accounts for 30% of global prevention of mother-to-child transmission gaps.^[1] Available statistics shows that 80% of the people living with HIV/AIDS in Nigeria were infected through sexual intercourse, with high-risk sexual behavior of multiple partnership and non-use of condom as the leading risk factors.^[2] Intensive advocacy and introduction of contraception within this group has the potential to increase contraceptive use and reduce transmission of HIV infection.

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Historically, it was recommended that HIV positive women should avoid pregnancy, opt for a permanent form of contraception or terminate the pregnancy to avoid transmitting the virus to their newborn. However, with the introduction of highly active antiretroviral therapy, the subsequent improvement of survival of HIV positive women and significant reduction in the rate of mother to child transmission, the recommendations has changed.^[3] Most national HIV treatment guidelines including Nigerians, advised HIV positive women to limit family size and have access to appropriate counseling regarding the use of safe and effective contraceptive methods.^[4]

Paradoxically, many of these HIV positive women live in sub-Saharan Africa where the total fertility rate is high and access to contraceptive services and contraceptive prevalence rates are low. Nigeria has a total fertility rate of 5.9 births per women, yet only 8% of married women use modern contraceptive device.^[5] Suggesting that HIV positive women in these regions are likely to have a low contraceptive prevalence rate and a high prevalence of unwanted pregnancies.

Available evidence from studies outside Nigerian shows that though approximately 70% of HIV positives are sexually active, their use of effective contraception is variable and unplanned pregnancy and its complications are common.^[6-9] Unfortunately, no published study in Nigeria has evaluated contraceptive use among cohorts of HIV positive women. Establishing the pattern of use, knowledge and associated factors of contraception among the HIV positive women is therefore urgent and necessary. Information generated may serve as a basis for updating guidelines on contraception in this category of women.

MATERIALS AND METHODS

A cross-sectional study in a busy HIV treatment center a cosmopolitan city of Lagos, Nigeria. The center currently provides comprehensive HIV care, treatment, and support for over 18,000 patients (>60% are women). All services are provided free to the patients.

Information was obtained from HIV positive women who presented for HIV services at the center over a 4 months period using a self-administered questionnaire designed for the study. However, the low literate were assisted by trained research assistants. Information

obtained includes socio demographic characteristics, sexual and contraceptive behavior, knowledge, and practices. The questionnaire was pilot tested at the HIV Counseling and Testing Center before the study. Every HIV positive women between ages of 18 years and 49 years who gave an informed consent to participate in the study were eligible. Excluded from the study were women below 18 years and above 49 years of age. Furthermore excluded were women who had a hysterectomy or have not seen their period for more than 12 months irrespective of their age.

Approvals for the study were obtained from both the management of the host Institution and its ethics committee. The sample size expression $n = Z^2P(1-P)/E^2$ was used to determine the minimum number of subjects to be enrolled into the study; where n = required sample size, Z = reliability coefficient at 95% confidence interval (CI) (standard value of 1.96), P = expected prevalence of contraceptive usage among women HIV positive of 39%.^[10] E = margin of error at 5%. A sample size of 366 was determined. We increased the sample size by 10% in anticipation of non-response or withdrawal of consent. A final minimum sample size of 403 was obtained.

The information on the completed questionnaires were entered and analyzed using the statistical package for the social sciences version. The Student *t*-test and Chi-squared — tests were used as appropriate with 95% *CI* and the level of statistical significance was set at 0.05. Results were illustrated with tables and graphs, where appropriate.

RESULTS

A total of 403 questionnaires were administered; of which only 374 were returned completed, giving a response rate of 92.8%. The socio demographic characteristics of the respondents are shown in Table 1. The mean age of the mothers was 28.9 ± 3.15 years with a range of 18-49 years. Majority of the women were within the age group of 20-35 (67.5%), had between 1 and 2 previous deliveries (66.7%). The median and mean parity were 1 and 1.5 ± 0.53 respectively. The women were mostly married (57.4%), Christians (65.8%) and have at least a secondary education (81.0%). While 293 (72.5%) respondents have been receiving HIV care at the center for more than 12 months, only 137 (46.7%) were on antiretroviral drugs.

Table 1: Socio-demographic characteristics of the 374 respondent in the study

| Characteristics | Number of respondents (%) |
|-----------------------------|---------------------------|
| Age | |
| Less than 20 | 8 (2.1) |
| 21-30 | 101 (26.9) |
| 31-40 | 185 (49.5) |
| Greater than 40 | 80 (21.5) |
| Marital status | |
| Single | 72 (21.9) |
| Married | 205 (57.4) |
| Separated/divorced | 68 (18.2) |
| Widow | 29 (10.3) |
| Parity | |
| 0 | 147 (39.3) |
| 1-2 | 126 (33.7) |
| 3-4 | 62 (16.6) |
| >4 | 39 (10.4) |
| Religion | |
| Christianity | 246 (65.8) |
| Catholic | 96 (25.6) |
| Protestants | 49 (13.2) |
| Pentecostals | 101 (27.0) |
| Islam | 102 (27.3) |
| Others | 25 (6.7) |
| Tribe | |
| Yoruba | 137 (36.6) |
| Igbo | 134 (35.8) |
| Hausa/Fulani | 22 (5.9) |
| Northern minority | 23 (6.1) |
| Southern minority | 58 (15.4) |
| Educational level completed | |
| None | 15 (4.0) |
| Primary | 56 (15.0) |
| Secondary | 189 (50.5) |
| Tertiary | 114 (30.5) |
| Partner HIV status | |
| Positive | 141 (37.8) |
| Negative | 194 (51.9) |
| Unknown | 39 (10.3) |
| Duration in HIV care | |
| <1year | 103 (27.5) |
| 1-3years | 109 (29.1) |
| >3years | 162 (43.3) |

HIV: Human immunodeficiency virus

The majority of the respondents were aware (353; 94.6%) and had good knowledge (267; 71.9%) of contraception and contraceptive methods. The use of contraception for pregnancy prevention and HIV protection were acceptable to 315 (84.1%) respondents; however, only 73.8% (276) and 56.2% (210), respectively had ever used or currently using a modern contraceptive method. Only 25 (6.1%) women had ever used an emergency contraception.

Table 2: Types of contraceptive methods used by 210 respondent currently using contraceptives

| Contraceptive type | Number of respondents (%) |
|-----------------------------------|---------------------------|
| Condom | 111 (52.9) |
| Male | 82 (39.0) |
| Female | 19 (13.9) |
| Injectable | 66 (31.4) |
| Pills | 17 (8.1) |
| Intrauterine contraceptive device | 11 (5.2) |
| Implant | 3 (1.4) |
| Bilateral tubal ligation | 2 (1.0) |

The pattern of use of various forms of modern contraception is shown in Table 2. Condom (52.9%) and injectable contraceptives (31.4%) were the most common methods used by the respondents. Male condom (73.9%) was more commonly used than the female condom (26.1%).

Table 3 shows the reported complications of contraceptives by contraceptive method among the respondents on contraception currently. Thirty one complications (14.8%) were reported by 28 respondents. Respondents on condom and injectable contraceptives reported most (67.7%) complications. Weight gain (2.4%) and condom slip off (2.4%) were the most common complications reported.

Off the 374 respondents in this study, 100 (29.5%) reported ever terminating an unwanted pregnancy and 39 (10.4%) reported terminating an unwanted pregnancy since knowing their HIV status. The risk of terminating an unwanted pregnancy were about 6 times (odd ratio [OR]: 5.9; 2.5-14.1) higher in women not using contraception (31; 18.9%) compared to their counterpart using contraception (8; 4.0%).

The effect of socio demographic and biologic characteristics on contraceptive use is shown in Table 4. The differences in the use of contraceptives were found for various variables. At univariate analysis, a higher proportion of women who were on contraception were greater than 35 years of age (OR: 1.6; 1.0-2.5), had less than 3 living children (OR: 2.4; 1.5-4.1), being on HIV care for more than 3 years (OR: 2.4; 1.4-4.0) and had used contraception previously (OR: 1.9; 1.0-3.4). Furthermore, women with less than secondary education (OR: 0.3; 0.2-0.5) and have HIV positive partners (OR: 0.5; 0.3-0.6) are more likely not to be using contraception. After controlling for

Table 3: Reported complications of contraceptives by contraceptive method among 210 respondents on contraception

| Reported complication | Condom n = 111 (%) | Injectable n = 66(%) | IUCD n = 11(%) | Pills n = 17(%) | BTL n = 2(%) | Implants n = 3(%) | Total (%) n = 210 |
|----------------------------------|-----------------------|-------------------------|-------------------|--------------------|-----------------|----------------------|----------------------|
| Condom breakage | 4 (3.6) | 0 (0.0) | 0 (0.0) | 0 (0.0) | 0 (0.0) | 0 (0.0) | 4 (1.9) |
| Condom slip off | 5 (4.5) | 0 (0.0) | 0 (0.0) | 0 (0.0) | 0 (0.0) | 0 (0.0) | 5 (2.4) |
| Erectile failure | 2 (1.8) | 0 (0.0) | 0 (0.0) | 0 (0.0) | 0 (0.0) | 0 (0.0) | 2 (1.0) |
| Irregular menstruation cycle | 0 (0.0) | 2 (3.0) | 0 (0.0) | 0 (0.0) | 0 (0.0) | 1 (33.3) | 3 (1.4) |
| Amenorrhea | 0 (0.0) | 3 (4.5) | 0 (0.0) | 0 (0.0) | 0 (0.0) | 1 (33.3) | 4 (1.9) |
| Heavy and prolonged menstruation | 0 (0.0) | 1 (1.5) | 2 (18.1) | 0 (0.0) | 0 (0.0) | 1 (33.3) | 4 (1.9) |
| Scanty period | 0 (0.0) | 1 (1.5) | 0 (0.0) | 1 (5.9) | 0 (0.0) | 0 (0.0) | 2 (1.0) |
| Lower abdominal pain | 0 (0.0) | 0 (0.0) | 2 (18.1) | 0 (0.0) | 0 (0.0) | 0 (0.0) | 2 (1.0) |
| Weight gain | 0 (0.0) | 3 (4.5) | 0 (0.0) | 1 (5.9) | 0 (0.0) | 1 (33.3) | 5 (2.4) |
| Nausea and vomiting | 0 (0.0) | 0 (0.0) | 0 (0.0) | 1 (5.9) | 0 (0.0) | 0 (0.0) | 1 (0.5) |
| Total | 11 (35.5) | 10 (32.3) | 4 (12.9) | 2 (6.5) | 0 (0.0) | 4 (12.9) | 31 (14.8) |

IUCD: Intrauterine contraceptive device, BTL: Bilateral tubal ligation

Table 4: Relationship between select socio demographic and biologic variables and contraceptive use

| Variable | Using contraceptive n = 210 (%) | Not using contraceptive n = 164 (%) | Crude odd ratio (95% CI) | Adjusted odd ratio (95% CI) |
|------------------------------|------------------------------------|--|-----------------------------|--------------------------------|
| Age (years) | | | | |
| Less than 25 | 18 (10.9) | 27 (13.4) | 0.6 (0.3-1.2) | 0.7 (0.4-1.1) |
| 25-35 | 94 (47.1) | 82 (47.0) | 1.0 | 1.0 |
| >35 | 98 (49.0) | 55 (30.5) | 1.6 (1.0-2.5) | 1.2 (0.8-3.7) |
| Marital status | | | | |
| Married | 119 (56.7) | 86 (52.4) | 1.2 (0.8-1.8) | 1.3 (0.9-2.4) |
| Not married | 91 (43.3) | 78 (47.6) | 1.0 | 1.0 |
| Educational status completed | | | | |
| Less than secondary | 23 (11.0) | 48 (29.3) | 0.3 (0.2-0.5) | 0.2 (0.3-0.5) ^a |
| Secondary and above | 187 (89.0) | 116 (70.7) | 1.0 | 1.0 |
| No of living children | | | | |
| Less than 3 | 138 (65.7) | 135 (82.3) | 1.0 | 1.0 |
| 3 and above | 72 (34.3) | 29 (17.7) | 2.4 (1.5-4.1) | 2.6 (2.1-3.9) ^b |
| Religion | | | | |
| Catholics | 53 (26.5) | 43 (28.9) | 1.0 (0.6-1.7) | 0.9 (0.3-3.7) |
| Non-catholics | 84 (42.0) | 67 (45.0) | 1.0 | 1.0 |
| Islam | 63 (31.5) | 39 (26.1) | 1.3 (0.8-2.2) | 1.4 (0.9-3.7) |
| Tribe | | | | |
| Igbo | 77 (36.7) | 57 (34.8) | 1.0 (0.6-1.7) | 1.1 (0.8-2.7) |
| Hausa/fulani | 15 (7.1) | 7 (4.3) | 1.6 (0.6-4.6) | 1.5 (0.7-4.1) |
| Yoruba | 79 (37.6) | 58 (35.4) | 1.0 | 1.0 |
| Minority tribes | 39 (18.6) | 42 (25.6) | 0.7 (0.4-1.2) | 0.9 (0.6-1.1) |
| Duration of HIV care | | | | |
| Less than 1 year | 45 (21.4) | 58 (35.4) | 0.8 (0.5-1.5) | 0.9 (0.7-2.0) |
| 1-3 years | 50 (23.8) | 54 (32.9) | 1.0 | 1.0 |
| Greater 3 years | 115 (54.8) | 52 (31.7) | 2.4 (1.4-4.0) | 2.6 (1.5-4.0) ^c |
| HIV status of partner | | | | |
| Positive | 62 (34.6) | 79 (50.6) | 0.5 (0.3-0.6) | 0.4 (0.3-0.6) ^d |
| Negative | 117 (65.4) | 77 (49.4) | 1.0 | 1.0 |
| Previous contraceptive use | | | | |
| Yes | 45 (21.4) | 21 (12.8) | 1.9 (1.0-3.4) | 2.0 (1.5-3.1) ^e |
| No | 165 (78.6) | 143 (87.2) | 1.0 | 1.0 |

^aAdjusted for age, previous use of contraceptives and duration of HIV care, ^bAdjusted for age, marital status, religion and previous use of contraceptives, ^cAdjusted for age, educational status and partner HIV status, ^dAdjusted for duration of HIV care, marital status and number of living children, ^eAdjusted for age, marital status, religion and number of living children, HIV: Human immunodeficiency virus, CI: Confidence interval

potential confounders of age, educational status, duration of HIV care, previous use of contraception, marital status, religion, and number of living children in a multivariable logistic regression model, women with more than 3 living children (OR: 2.6; 2.1-3.9), being on HIV care for more than 3 years (OR: 2.6; 1.5-4.0) and had previous contraceptive use experience (OR: 2.0; 1.5-3.1) were more likely to use contraception. Women with less than secondary education (OR: 0.2; 0.3-0.5) and have HIV positive partners (OR: 0.4; 0.3-0.6) were less likely to use contraception.

DISCUSSION

Contraceptive awareness (94.6%), knowledge (71.9%), and acceptance (84.1%) rates in this study were high; however, the current contraceptive use rate is surprisingly low at 56.2%. However, the rate is obviously high when compared to the contraceptive prevalence in our environment of 11-15.3%.^[5,11] In reality considering the dual reasons for use of contraception in HIV positive women and the amount of contraceptive information available at the HIV treatment clinic is rather low. The relatively low rate may be due to the perceived fear of real and imagined side-effects associated with some contraceptive methods and also the relative lack of access to commodity sources.^[5] This low contraceptive use rate could result in a high incidence of unwanted pregnancy, vertical, and horizontal transmission of HIV at the community level. The unwanted pregnancy termination rate of 10.4% among the respondent since their HIV diagnosis confirms the danger of non-use of contraception. The risk of terminating an unwanted pregnancy was 6 times (OR: 5.9; 2.5-14.1) higher in women not using contraception (31; 18.9%) compared to those using contraceptives (8; 4.0%) in this study. Previous studies have reported unwanted pregnancy rates ranging from 18.3% to 64.0%.^[5,10] However, these reported figures could be a tip of the iceberg as women are unwilling to report the termination of pregnancy in our environment. The male condom was mostly used by our respondents probably because it is widely available and free in our clinic. Injectable contraceptive was also popular among our respondents. The permanent methods were not popular among respondents in this study as in other studies in our environment,^[5,11] probably because of the negative perspectives about them.^[12] The side-effects that were mostly commonly experienced were weight gain

(2.4%) and condom slip off (2.4%). Probably, most respondents were using either condom or injectable hormonal contraceptives.

The positive association between current contraceptive use and women with more than 3 living children, being on HIV care for more than 3 years and used contraceptive previously is not surprising as previous studies in our environment have observed similar association.^[5,6,11] The study also shows that women with poor education and in HIV sero-concordant relationships were less likely to use contraception. With poor education, women are more likely to believe in the erroneous views that contraception use is associated with difficulty in achieving conception in future.^[6,12] In a relationship in which both partners are HIV positive, the zeal to use contraception to protect the partner from HIV infection is no longer there and thus irregular use of condom.^[6,8,9] However, considering the possibility of transmitting other strains of HIV and drug resistance strains to an infected partner more effort need to be put in place to correct the wrong notion.

It is evident from this study that although contraceptive awareness and knowledge is rather high, the relatively low current contraceptive use, suggests the need for effective enlightenment and health education among the HIV positive women. Also, the factors identified in this study to be associated with non-use of contraception need to be addressed. In addition, the integration of contraceptive services into existing HIV services will, enhance the uptake of contraception while preventing transmission of HIV infection.

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