

Fertility desire and utilization of family planning methods among HIV-positive women attending a tertiary hospital in a suburban setting in Northern Nigeria

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ABSTRACT

Background: One of the pillars of prevention of Mother to child transmission (MTCT) of Human Immunodeficiency Virus (HIV) involves prevention of pregnancy or delaying pregnancy until when it is desired in HIV-positive women. This study aimed to assess fertility desire, utilization of family planning method, and predictors for use of contraception among women living with HIV.

Materials and Methods: This was a descriptive cross-sectional study, carried out at the Federal Medical Centre Birnin Kudu, Jigawa state, Nigeria. Using an interviewer-administered questionnaire, the fertility desire, utilization, and predictors of use of modern contraceptive methods was assessed among 330 HIV-positive women attending the hospital specialist clinic. Data was analyzed using SPSS.

Results: Majority ($n = 250$; 75.8%) of the respondents desired to have more children, out of which 100 (40%) desired to have more than 6 children each while 80 women (24.2%) no longer wanted more children. Sixty-eight (20.6%) respondents had a change in fertility intention since diagnosed as HIV positive. The use of family planning methods was significantly associated with having formal education, being married, and being of the Christian faith ($P < 0.05$). The odds of using a family planning method was about 4 times less among women with informal education ($P = 0.002$, OR = 3.819; 95% CI (Confidence Interval) = 1.657–9.139); while the odds was 3 times higher among married women ($P = 0.032$, OR = 0.258; 95% CI = 0.075–0.888).

Conclusion: Women living with HIV have different reproductive intentions with majority desirous of childbearing, hence they should be supported either to space their births or limit child bearing to reduce the risk of MTCT of HIV.

Key words: Fertility desire; HIV; family planning; Northern Nigeria.

Introduction

Globally, the pandemic of Human Immuno-deficiency Virus (HIV) and AIDS has continued to constitute serious health and socio-economic challenges for more than two decades reversing many of the health and developmental gains as reflected by indices such as life expectancy at birth

and infant mortality rate.^[1] Nigeria's national prevalence of HIV is 4.1%.^[1] At this level of prevalence, about 3.1 million

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people are infected with HIV and about 1,512,720 will require anti-retroviral (ARV) therapy.^[1] Nigeria has the second highest number of people living with HIV after South Africa in the world.^[2] Within Nigeria, there is wide disparity in prevalence of the infection; Kebbi State in North west has 1% while Benue state in the North central zone has 12.7%. The average prevalence in North West zone is 2.1% with rural prevalence of 1.7% and urban prevalence of 2.7%.^[1] However, the rural prevalence of Jigawa state in northwest Nigeria is greater than the urban prevalence.^[1]

Across the country, heterosexual intercourse remains the primary route of transmitting HIV,^[3] which can be addressed by the primary prevention of HIV among women of reproductive age group; a pillar of the prevention of mother to child transmission (PMTCT) of HIV strategy. This is a promising approach to combating the HIV scourge and preventing the next generation from HIV. In Nigeria and many low-income countries, attention and resources for this program are chiefly concentrated on antenatal HIV testing, provision of ARV prophylaxis to infected women and exposed newborns with counselling on safer infant feeding practices.^[4] While this represents a public health approach, these three elements constitute just one of the components of the PMTCT program. The current impact of the program is limited by its failure to effectively link with sexual and reproductive health services and address the contraceptive needs of women with HIV.^[5] Family planning among women with HIV has the potential to reduce maternal deaths and disabilities by delaying motherhood, spacing childbirths, avoiding unplanned pregnancy, and its complications as well as discontinuing childbearing when the desired family size is attained. Preventing unplanned or unwanted pregnancies allows women to optimize their health and has the potential of decreasing mother to child transmission (MCT) of HIV. Furthermore, evidence has shown that this approach of PMTCT is cost effective, as adding family planning to PMTCT would reduce the cost of each HIV infection avoided by half.^[5]

Essential to the success of this approach is information about the fertility desire and intention among women living with HIV as this would help in understanding future reproductive behavior of these women so they can be assisted to conceive safely, delay, or limit unwanted pregnancies. Reports on fertility desire among women living with HIV have been inconsistent; signifying an intricate relationship between HIV status and fertility depending on the setting. Some have shown a significant reduction in desire,^[6,7] while others have shown an increase.^[8,9] An increase in fertility desire have been associated with a young age of HIV-infected women, having low or no living children and a perceived good health

status^[8,10-13] while a decreased fertility desire is associated with divorce or separation.^[13,14]

In light of the above, we sought to determine the fertility desire, utilization, and predictors for use of contraception among women living with HIV in a suburban setting of northern Nigeria. The findings from this study are expected to inform service provision to meet needs and assist in planning interventions to improve the uptake of family planning methods.

Materials and Methods

Study setting and participants

This study was conducted at the Federal Medical Centre Birnin Kudu, a tertiary institution located in a rural setting in Jigawa state, northwest Nigeria. According to the 2011 population projection, Birnin Kudu had a population of 363,120 inhabitants and they are predominantly Muslims and Hausa/Fulani by ethnicity.^[15] Their major occupation is farming. It is about 130 km south east of Kano city, the commercial nerve centre of northern Nigeria. The hospital serves the healthcare needs of the people in the community and also receives referrals from other hospitals in the state and neighbouring northern states of Kano and Bauchi.

The hospital is a 250 bedded facility and it is designated a PMTCT centre. It provides specialist care for people living with HIV/AIDS in the community and immediate environment in conjunction with FHI 360; a non-governmental organization (NGO). This organization provided support to the hospital in terms of ARV drugs, consumables for the laboratory, infection prevention materials, and other logistics related to provision of care for patients with HIV/AIDS. Women living with HIV/AIDS are seen at the specialist clinics of the hospital everyday of the week with an average of 8 new cases and average of 680 old cases per month at the specialist clinics in 2015. The follow up appointments at the clinic ranges between 8–12 weeks.

The study population consisted of women of reproductive age group on ARV therapy and attending the specialist clinics of the institution for follow up care from the October 5, 2015 to November 30, 2015.

Exclusion criteria:

- All women that had AIDS or were critically ill
- All pregnant women with HIV receiving care at the facility
- All women with HIV but were less than 15 years or greater than 50 years of age at the time of study
- All women that did not consent to the study.

Study design and sampling strategy

The study was descriptive and cross sectional in design. The sample size was calculated from the expression $N = z^2pq/d^2$, where z is the normal standard deviate set at 1.96, confidence level specified at 95%, the tolerable error margin (d) at 5% and based on prevalence of 56% of utilization of family planning methods by women living with HIV in Lagos, south west Nigeria.^[6] A sample of 379 was obtained. This was adjusted to compensate for a non-response rate of 10% and the final minimum sample size was 421.

Research instrument

An adapted,^[6] structured, interviewer-administered questionnaire was used to assess women's fertility desire, utilization, and reasons for non use of contraception. The questionnaires were pre-tested on a sample of 30 HIV-positive women attending the same health facility (but were excluded from the main study). This was done to ascertain the appropriateness, sensitivity of the questions, and comprehensibility. There was good internal consistency among the items, re-confirming the instrument's reliability and validity. The questionnaire was in English language though another version in Hausa language was made available for natives. It was professionally translated and the accuracy of the translation was checked by back translation done by an independent translator. This was done to identify differences in translation that could alter the meaning of the questions. The administration of the anonymized questionnaires were by pharmacists working in the specialist clinics to eligible women after collecting their ARV drugs. The pharmacists were trained for the questionnaire administration technique.

Ethical consideration

The study proposal was approved by the Ethics and Research committee of the Federal Medical Centre Birnin Kudu and informed consent was obtained from the participants. The participants were assured of confidentiality and that non-participation in the study would not in any way affect the care they would receive.

Data analysis

The data obtained from the questionnaires were entered and analyzed using statistical package for social sciences (SPSS) version 17.0 (Chicago IL USA). Qualitative variables were summarized using frequencies and percentages. Means and standard deviation were used to summarize quantitative variable. The Chi-square test was used for evaluating association between categorical variables as appropriate. Statistical significance was said to be achieved when P value was ≤ 0.05 . Logistic regression analysis was used to assess the relative effect of determinants, adjusting for other predictor

variables. The dependent variable was the use of family planning method classified as "Yes" or "No" and the covariates included variables that were significantly associated with use of family planning methods at bivariate level.

Results

During the study period, 421 respondents were approached to participate in the study of which 330 (78.4%) agreed to participate.

Sample description

The ages of the respondents ranged from 15 to 50 years with a mean of 30.9 ± 7.0 years, while the parity ranged from 0 to 13 with a mean parity of 4.0. Of the 330 participants, 236 (71.5%) were married; of which 138 (58.5%) were monogamous while 98 (41.5%) were in polygamous relationships. Of those in polygamous relationships; 82 (83.7%) of them were the second wives, 10 (10.2%) were third wives, while 6 (6.1%) were the fourth wives of their husbands. Fifty (15.1%) were single; of which 48 (96.0%) were widows and two (4.0%) were never married. Three hundred and five (92.4%) of the participants were Muslims. One hundred and fifty eight (47.9%) petty traders, while 23 (7.0%) grouped as others includes: two hairdressers and 21 civil servants [Table 1]. One hundred and eighty six respondents (56.4%) have been on ARV therapy for up to 4 years, while 144 (44.6%) have had it for more than 4 years.

Fertility desire

Majority ($n = 250$; 75.8%) of the respondents desired to have more children, out of which 100 (40%) desired to have more than 6 children each, while 80 (24.2%) no longer wanted more children. Sixty eight (20.6%) respondents had a change in fertility intention; of which 56 (82.4%) now desired fewer children since diagnosed as HIV positive.

Utilization of family planning methods

Eighty (32.0%) desired a modern family planning and three hundred and nine respondents (93.6%) were aware of modern methods family planning with various proportions knowing different modern methods as highlighted in Table 2. Of those aware of modern methods of family planning, only 31 (10%) had ever used it as shown in Table 2. Majority ($n = 26$; 83.9%) sourced it from the family planning unit of the hospital, while others got it from private hospitals.

Use of family planning methods and socio-demographic characteristics

The use of family planning methods was significantly associated with having formal education, being married, and being of the Christian faith ($P < 0.05$), as shown in Table 3.

Table 1: Socio-demographic characteristics (n=330)

Socio-demographic characteristics	n (%)
Age	
<20	13 (3.9)
20-29	120 (36.4)
30-39	161 (48.8)
40≥	36 (10.9)
Parity	
0	22 (6.7)
1	31 (9.4)
2	51 (15.5)
3	49 (14.8)
4	43 (13.0)
5≥	134 (40.6)
Ethnicity	
Hausa	216 (65.4)
Fulani	57 (17.3)
Others	57 (17.3)
Religion	
Islam	325 (93)
Christianity	25 (7)
Occupation	
Trading	158 (47.9)
Housewife	136 (41.2)
Teaching	13 (3.9)
Others	23 (7.0)
Education	
Quranic	218 (66.1)
Primary	35 (10.6)
Secondary	46 (13.9)
Tertiary	31 (9.4)
Marital Status	
Married	236 (71.5)
Single	50 (15.1)
Divorced	42 (12.7)
Separated	2 (0.6)

Predictors for use of family planning methods

After controlling for confounders, the odds of using a family planning method was about 4 times less among women with informal education ($P = 0.002$, OR = 3.819; 95% Confidence Interval (CI) = 1.657–9.139); while the odds was three times higher among married women ($P = 0.032$, OR = 0.258; 95% CI = 0.075–0.888), as shown in Table 4.

Discussion

Understanding the desire for children among women living with HIV is crucial to reducing the MTCT of HIV. Two discrete groups of women living with HIV having different reproductive needs were identified from this study. About three of four respondents desired to have more children, while 25% had no such desire. This desire for more children may be attributed to the fact that about 40% of the respondents were less than

Table 2: Awareness and utilization of family planning methods (n=330)

	n (%)
Have you heard of family planning?	
Yes	309 (93.6)
No	21 (6.4)
Methods heard of (n=323)*	
Injectables	268 (86.7)
OCP	94 (30.4)
Male condom	92 (29.8)
Female sterilization	60 (19.4)
Implants	53 (17.1)
Foaming tablets	43 (13.9)
Female condom	34 (11.0)
IUD	33 (10.7)
Male Sterilization	15 (4.9)
Are you using any method of family planning? (n=309)	
Yes	31 (10.0)
No	278 (90.0)
Methods used (n=31)*	
Injectables	17 (54.8)
OCP	5 (16.1)
Male condom	4 (12.9)
Implants	3 (9.7)
Female sterilization	2 (6.5)
Reasons for non-utilization (n=278)*	
Husband desire more children	102 (36.7)
Fear of complication	96 (34.5)
Husband refusal	56 (20.1)
No sexual partner	40 (14.4)
Lack knowledge of family planning methods	19 (6.8)
Religious prohibition	16 (5.8)

*Multiple responses possible. OCP - Oral contraceptive pill

30 years, an age considered to be the peak of reproduction,^[16] while about the same proportion of respondents that were married were in polygamous setting; which in this part of the country is associated with increased desire for more children as women in these relationships often compete for the husband's attention by having more children.^[17] However, those women not desirous of having more children; may possibly have completed their family size or are single since about a third of the respondents were either widows or divorcee. Interestingly, about one in five respondents had a change in fertility intention after being diagnosed as HIV positive of which majority wanted fewer children. Importantly, assisting women desirous of more children to space and plan the births of their children, while supporting those not desirous to limit their family sizes remains a major thrust in reducing the chances of MTCT of HIV and protecting the next generation.

Being infected with HIV did not seem to affect fertility intentions and the uptake of family planning as only 20.6% of

Table 3: Association between the utilization of family planning methods among HIV-positive women and socio-demographic characteristics in Birnin Kudu, 2015 (n=309)

Socio-demographic characteristics	Use of family planning methods			Chi-square test χ^2	P
	Yes	No	Total		
Age (years)					
<30	10 (8.4)	109 (91.6)	119	0.57	0.457
30 \geq	21 (11.1)	169 (88.9)	190		
Parity					
0-4	14 (7.7)	169 (92.3)	183	2.82	0.093
5 \geq	17 (13.5)	109 (86.5)	126		
Ethnicity					
Hausa/Fulani	22 (8.7)	230 (91.3)	252	2.57	0.11
Others	9 (15.8)	48 (84.2)	57		
Marital status					
Married	28 (12.7)	193 (87.3)	221	5.9	0.014
Unmarried	3 (3.4)	85 (96.6)	88		
Occupation					
Unemployed	9 (7.2)	116 (92.8)	125	1.87	0.172
Employed	22 (12.0)	162 (88.0)	184		
Education					
Informal	10 (5.0)	190 (95.0)	200	15.9	0.000
Formal	21 (19.3)	88 (80.7)	109		
Religion					
Islam	25 (8.8)	259 (91.2)	284	5.87	0.015
Christianity	6 (24.0)	19 (76.0)	25		

Table 4: Predictors of use of family planning among HIV positive women in Birnin Kudu, 2015

Predictor	Crude OR	Adjusted OR (95%CI)	P
Education			
Informal	4.53 (2.05-10.03)	3.891 (1.657-9.139)	0.002
Formal	1		
Marital status			
Married	0.24 (0.07-0.82)	0.258 (0.075-0.888)	0.032
Unmarried	1		
Religion			
Islam	2.49 (0.93-6.63)	1.560 (0.521-4.673)	0.427
Christianity	1		

the women studied had a change in their fertility intentions after their diagnosis was made and 10% had ever used a method of family planning. Generally, having many children in this setting is deeply rooted in cultural and religious beliefs and being HIV infected did not deter the desire to have many children as many of the women did not take up family planning methods to prevent or space pregnancies. This is similar to the findings of Iliyasu and others in Kano.^[17] The reasons given for non-utilization of birth control methods are similar to established reasons in the country: being afraid of complications that may arise from its use, husband's desire for more children, and husband's refusal of modern methods of contraception.^[3,18-23]

The determinants of the use of contraception among these women were being married and having formal education, which is similar to none infected women.^[18] Based on the above, emphasis should be on assisting these women on their choice; to either safely conceive, space births or limit family size when they wish to. All can be achieved by integrating family planning into the HIV specialist clinics in an attempt to make this a comprehensive clinic with the aim of reducing MTCT of HIV.

Though this study was in rural setting in northern Nigeria where little had been documented on utilization of contraception among HIV-positive women, yet its design is susceptible to bias. The non-responders, 91 (21.6%), may differ from the participants. Also, the exclusion of women pre-commencement of ART may limit the generalization of findings. Nevertheless, in spite of these limitations, useful information regarding fertility desire, utilization of modern contraception, and reasons for non-utilization of modern contraception among HIV-positive women in a rural community northern Nigeria were generated.

The desire for more children was observed among 75.8% of the respondents in this study, which is comparable to the 71.5% reported by Chama *et al.* in Maiduguri,^[24] but higher than the 67.7% observed by Kaoje *et al.* in Sokoto^[25] and the 60% reported by Eka *et al.* in Jos.^[26] It is also higher than the 45% reported from Tigray region in Ethiopia,^[8] 36% from Tanzania,^[27] and 10% from rural Uganda.^[13]

Despite the 93.6% level of awareness of modern contraception among the respondents, which is comparable to the general population in the same community,^[18] only 10% of the respondents had actually utilized a method of family planning since diagnosed as having HIV. This indeed is lower than the 25% among women living with HIV/AIDS in Kano, which is the same geopolitical zone as the study centre; and the 29% reported among the non-infected women in the study community.^[18] Nevertheless, it is similar to the 9% reported for rural areas in Nigeria but higher than the 4.3% reported for the northwest zone by the NDHS in 2013.^[3]

The differential contraceptive use among women with HIV varies with the method and the setting. Generally, condom remains one of the commonest method of contraception used in Nigeria;^[3] however, slightly over a quarter of the respondents were aware of it out of which about 12.9% had ever used it. This is poor, considering the fact that condom protects against sexually transmissible infection and pregnancy; it is effective, cheap, and readily available. Though it is similar to the 12.7% utilization rate of condom

among women with HIV as reported by Habte & Namasasu,^[28] but is lower than the 19.4% reported by Iliyasu *et al.*^[17] from Kano. It is much lower than the 34.4% and 47.9% reported by Polisi^[29] and Melaku,^[30] respectively. The injectable hormonal contraceptive is one the preferred method of contraception among women in this community^[18] possibly because of its convenience and privacy. Majority (54%) of those respondents that have utilized modern contraception have used it. This is higher than the 11.9% and 19.6% reported by Polisi^[29] and Habte,^[28] respectively, but lower than the 74.8% by Melaku.^[30]

Based on the findings above, it is important that healthcare providers appreciate the fact that women living with HIV have differing contraceptive needs and should be ready to provide more information regarding family planning so that informed decisions are made and they should be willing to support them with their decisions. In addition, emphasis should still be on preventing unintended pregnancy and MTCT of HIV irrespective of their choice. Policy makers should be aware that childbearing and limiting family size is influenced by socio-cultural reasons and as such policies made should support and respect the wishes of women living with HIV as it concerns their reproductive decisions. Also, family planning services should be made available and integrated into HIV clinics as majority of the women who had used family planning methods in this study sourced it from the family planning clinic of the hospital.

Conclusion

This study highlighted that women living with HIV have different reproductive intentions with majority desirous of childbearing and as such they should be supported either to space their births or limit child bearing in an attempt to reduce the risk of unintended pregnancies and MTCT of HIV.

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Conflicts of interest

There are no conflicts of interest.

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