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ORIGINAL ARTICLE

Determinants of Unmet Need for Family Planning Among HIV-Positive Women of Reproductive Age in a Treatment and Care Center Jos, Northcentral Nigeria

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Keywords

Unmet need;

Women of reproductive age;

Human Immuno-deficiency Virus;

Family planning

ABSTRACT

Introduction: About half of Nigeria's population living with HIV are women. Therefore, the use of contraceptives is useful for HIV prevention. The aim of this study was to assess the unmet need for family planning and its associated factors among HIV-positive women of reproductive age in Jos, North-central. Nigeria.

Method: This facility-based cross-sectional study was conducted among 335 HIV-positive women of reproductive age attending the (APIN) Public Health Initiative Centre of the Jos University Teaching Hospital in Plateau State. A systematic sampling technique was used to select participants. Pre-tested interviewer-administered questionnaires were used for data collection and statistical analysis done using the SPSS version 23 software package. A logistic regression model was used to identify determinants of unmet needs for family planning. Ethical approval was obtained for the study.

Results: The mean age of the respondents was 37.44 ± 6.40 years. Unmet need for family planning was 25.4% and the commonest reasons cited include partner opposition and fear of side effects. Marital status, duration of HIV diagnosis, duration on HAART, use of condom during the last sexual act, partner/husband support, and desire for more children were found to be associated with unmet need for family planning. Predictors of unmet need for family planning were marital status (AOR=0.15, P-value-0.030), duration of HIV diagnosis (AOR=5.09, P-value-0.005), duration on HAARTs (AOR=2.64, P-value-0.03) and desire for more children (AOR=0.42, P-value-0.001).

Conclusion: HIV-positive women of reproductive age in Jos have high unmet needs for family planning and will benefit from early reproductive health education which includes couple counseling on contraceptive use.

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INTRODUCTION

Women have the fundamental right to achieve their preferred reproductive health goals.[1] The use of contraceptives for family planning enables women and families space or limit childbirth. Contraceptives prevent unwanted pregnancies, induced abortions, and maternal deaths while improving maternal and child health. Therefore, all barriers to the access and use of contraceptives should be reduced to the barest minimum. This is even more important in women living with HIV.

The World Health Organization (WHO) defines an unmet need for family planning as those women who are fecund and sexually active but do not use any method of contraception and report not wanting any more children or wanting to delay the next child.[2] Furthermore, the unmet need for family planning describes the gap between women's reproductive health intentions and their contraceptive use behavior.

Unmet need for family planning is an important tool for measuring and predicting the contraceptive needs of any given society and is related to the sexual and reproductive health of women in the population. It is also true that addressing these unmet needs for family planning can assist countries in achieving their demographic goals as well as meet individual families' reproductive health intentions.

Nigeria has a significant population of women within the reproductive age group living with HIV among Sub-Saharan countries.[3] This group has higher risks of maternal and infant mortality or the risk of transmitting HIV, thus the use of contraceptives to plan families is key to health.[3,4] However, the unmet need for family planning has been shown to be high and sometimes even higher in women with HIV than in the general population.[5] In Southwest Nigeria, Okunola et al found 20% of women with HIV had unmet needs for family planning when compared to the 17% in the general population of women recorded in the Nigeria Demographic and Health Survey (NDHS 2018) of the same year.[6,7] In Jos Northcentral Nigeria, Oyebode et al reported that more than half (51.6%) of the women of reproductive age living with HIV stated a need for contraception.[8] This study, therefore aims to assess the determinants of unmet need for family planning among HIV-Positive women of reproductive age in Jos, Nigeria.

METHODS

The study was conducted in a tertiary facility in Jos North Local Government Area which is one of the 17 LGAs of Plateau State. There are seven health facilities offering HIV treatment, care, and support services in Jos North LGA among which Jos University Teaching Hospital (JUTH) is one of the largest. The center has enjoyed support for HIV treatment, care, and support services from the Nigerian Government as well as the United States President's Emergency Plan for AIDs Relief (PEPFAR) fund.

Table 1: Demographic characteristics of the study participants

Demographic characteristics	Frequency n=335	Percentage
Age group		
<20	4	1.2
20-29	33	9.8
30-39	163	48.7
≥40	135	40.3
Religion		
Christianity	257	76.7
Islam	78	23.3
Educational level		
Informal	25	7.5
Primary	85	25.4
Secondary	116	34.6
Tertiary	109	32.5
Current marital status		
Married	308	91.9
Widowed	21	6.3
Divorced/Separated	6	1.8
Type of marriage		
Polygamous	77	23.0
Monogamous	258	77.0
Occupation		
Unemployed	52	15.5
Trading	117	34.9
Farming	28	8.4
Civil servant	77	23.0
Employed in private establishment	22	6.6
Artisan	39	11.6

Sample Size Determination:

The sample size was calculated using the formula for the estimation of a single population proportion.

$(N=(z)^2 p (1 – p) / d^2$

With the assumptions of 95% confidence level, d=absolute precision at 95% confidence limit= 0.05, and prevalence (P) of unmet need for family planning from a previously conducted study in Jos = 26.9%. [9]

A non-response rate of 10% was considered. The estimated sample size used was 335.

A multistage sampling technique was used with JUTH purposively selected because it had a large number of HIV-positive women of reproductive age and a daily clinic schedule. A systematic sampling technique was used to select the study participants. From the monthly booking register of all clients accessing treatment, care, and support services, a list of all women of reproductive age was teased out and serialized to form the sampling frame for the

study. The sampling interval was determined by dividing the estimated clients per month (1052) by the sample size (335) to give an interval of 3.

Secondly, a simple random sampling technique by balloting was used to select the first study participant from within the sampling interval of 1 to 3 and every third client on the list was selected until the sample size was met. If the selected client declines consent for participation, the next contiguous client on the list was selected without distorting the sampling interval.

A pre-tested interviewer-administered questionnaire adapted from the NDHS 2013 survey questionnaire was used to obtain information on socio-demographics, contraceptive use, duration of HIV diagnosis, duration on Highly Active Anti-retroviral treatment (HAART), and unmet needs for family planning. The questionnaire was also translated into Hausa, the predominant local language for those who did not understand English. Information was entered into and analyzed using SPSS statistical software version 23.

Baseline socio-demographic data and other categorical variables were presented using frequency tables in frequencies and percentages as appropriate. Summary statistics such as mean and standard deviation were used for quantitative data as applicable. Chi-square test was used to determine the relationship between the unmet need for family planning and other variables such as socio-demographic characteristics and contraceptive use. A logistic regression model was used to determine predictive factors for unmet needs for family planning. At 95% confidence interval, p-value ≤ 0.05 was considered statistically significant.

Ethical consideration

Ethical clearance was obtained from the Jos University Teaching Hospital (JUTH) Health Research and Ethics Committee (JUTH/DCS/ADM/127/XXV/149). Written informed consent was sought and obtained from the participants in the study. The essence of the study was explained, and the anonymity and confidentiality of any information given was assured. They were given the option to opt-out if they so wished and told that refusal to participate would not attract any punitive measure or denial of benefits due to them.

RESULTS

A total of three hundred and thirty-five HIV-positive women of reproductive age were enrolled in the study. The mean age of the respondents was 37.44 years with the majority (89%) $\geq$ 30 years. The majority (91.9%) were married and most (77%) were in monogamous settings **(Table 1)**.

Most (80.6%) had at least 2 children with 58 of 327 (17.7%) women who had children, not desiring their last pregnancies, and 44% of participants did not use contraceptives (**Table 2**).

Among the 189 respondents who reported the use of contraceptives, male condoms were the most frequently used by more than half of the

respondents (52.9%), and the least method used was lactational amenorrhea (0.5%). Altogether, 10 (5.3%) persons used traditional methods (lactational amenorrhea, Rhythm, Withdrawal) **Table 3.**

Table 2: Fertility and HIV related characteristics of study participants

Variables(n=335)	Frequency	Percentage (%)
Number of living children		
0	8	2.4
1	57	17
≥2	270	80.6
last pregnancy was desired		
Yes	277	82.7
No	58	17.3
Spousal disclosure		
Yes	320	95.5
No	15	4.5
Duration since HIV Diagnosis		
≤1year	13	3.9
>1 year	322	96.1
Duration of HAART		
≤1year	22	6.6
>1 year	313	93.4
Partner support for use of Family planning		
Yes	188	56.1
No	119	35,5
uncertain	28	8.5
Current use of contraceptives		
Yes	189	56.4
No	146	43.6

Table 3: Methods of Family planning used by HIV positive women of reproductive age.

Methods	Frequency n=189	Percentage
IUD	10	5.3
Implant	58	30.7
Injectable	37	19.6
Pills	11	5.8
Male condom	100	52.9
Female condom	2	1.1
lactational amenorrhea	1	0.5
Rhythm method	7	3.7
Withdrawal	2	1.1

* Multiple responses applied

Women who were not using family planning cited partner opposition as the commonest reason (12.3%) and the high cost of contraceptives (0.7%), as the least reason.

While about a quarter (25.4%) of the subjects had an unmet need for family planning, more than a third (68%) of them were mostly for limiting as compared to spacing of childbirth **(Table 4)**.

Though there were differences in unmet needs for family planning among women with different levels of education, the difference was not statistically significant (*P*=0.267,0.346 respectively). Marital status, duration of HIV diagnosis, duration on HAART, use of condom during last sex, and husband/partner support were found to be associated with unmet needs (*P*=0.003, 0.02, 0.025,0.001, 0.012 respectively) **[Table 5].**

Married women were 85% less likely to have an unmet need for family planning (AOR=0.15, CL=0.027-0.875; P<0.030) compared to those who were not. Those who used condoms during the last sexual encounter were also 85% less likely to have an unmet need for family planning compared to those who did not (AOR=0.15, CL=0.075-0.293; P< 0.001). Those who were diagnosed HIV-positive within a year were five times more likely to have an unmet need than those who were diagnosed HIV-positive at > 1 year. (AOR = 5.091; CI =1.618 –16.019; P< 0.005). Unmet need for family planning was twice more likely among HIV-positive women who had been on HAART for less than a year than for longer (AOR = 2.644; CI = 1.099 – 6.365; P < 0.030) **[Table 6].**

Table 4: Prevalence, type of unmet needs and reasons for not using Family planning

Variable	Frequency	Percentage
-Unmet needs status(n=335)		
Yes	85	25.4
No	250	74.6
Types of unmet needs (n=85)		
Unmet need for spacing	27	31.8
Unmet need for limiting	58	68.2
Reason for not using family planning n=85		
Partner opposed	18	12.3
Side effects/health concerns	15	10.3
Not having sex	15	10.3
Infrequent sex	12	8.2
Religious prohibition	11	7.5
Not menstruated since childbirth	4	2.7
Still breastfeeding	4	2.7
Cost too much	1	0.7
No specific reason	5	5.9

Table 5: Relationship between demographic, Fertility, HIV characteristics of respondents and unmet need for family plannings

Characteristics	Unmet need		χ^2	P
	Yes (n = 85)	No (n = 250)		
Age group				
<20	0(0.0)	3(100.0)	5.040	0.169
21-29	13(38.2)	21(61.8)		
30-39	36(22.1)	127(77.9)		
≥40	36(36.7)	99(73.3)		
Religion				
Christianity	59(23.0)	198(77.0)	3.402	0.065
Islam	26(33.3)	52(66.7)		
Educational level				
Informal	11(37.9)	18(62.1)	3.952	0.267
Primary	20(23.5)	65(76.5)		
Secondary	32(27.6)	84(72.4)		
Tertiary	22(21.0)	83(79.0)		
Marital status				
Married	71(23.1)	237(76.9)	11.768	0.003*
Widowed	10(47.6)	11(52.4)		
Divorced/Separated	4(66.7)	2(33.3)		
Type of marriage				
Polygamous	24(31.2)	53(68.8)	1.774	0.183
Monogamous	61(23.6)	197(76.4)		
Occupation				
Unemployed	9(17.3)	43(82.7)	5.961	0.310
Trading	32(27.1)	86(72.9)		
Farming	11(39.3)	17(60.7)		
Civil servant	21(27.3)	56(72.7)		
Employed	4(18.2)	18(81.8)		
Artisan	8(21.1)	30(78.9)		
Husband educational level				
Informal	11(36.7)	19(63.3)	3.314	0.346
Primary	14(30.4)	32(69.6)		
Secondary	22(22.9)	74(77.1)		
Tertiary	38(23.3)	125(76.7)		
Household monthly income				
<19,000	31(33.3)	62(66.7)	5.588	0.232
19,000-29,000	14(21.2)	52(78.8)		
30,000-40,000	12(29.3)	29(70.7)		
41,000-50,000	7(20.0)	28(80.0)		
>50,000	7(20.0)	28(80.0)		
Number of living children				
0	3(37.5)	5(62.5)	5.081	0.079
1	8(14.0)	49(86.0)		
>1	74(27.4)	196(72.6)		
Duration of HIV diagnosis				
≤1yr	8(61.5)	5(38.5)	9.342	0.002*
>1yr	77(23.9)	245(76.1)		
Duration on HAART				
≤1yr	10(45.5)	12(54.5)	5.015	0.025*
>1yr	75(24.0)	238(76.0)		
Use of condom during last sex				
Yes	11(8.1)	125(91.9)	36.124	0.001*
No	74(37.2)	125(62.8)		
Wanted the last pregnancy?				
Yes	70(25.3)	207(74.7)	0.009	0.925
No	15(25.9)	43(74.1)		
Husband support				
Yes	36(19.1)	152(80.9)	8.792	0.012*
No	40(33.6)	79(66.4)		
Don't know	9(32.1)	19(67.9)		
Order of marriage (among currently married) n=308				
1	55(22.5)	189(77.5)	1.676	0.433
2	16(26.7)	44(73.3)		
3	0(0.0)	4(100.0)		
Duration of marriage (among currently married) n=308				
1-5	12(22.6)	41(77.4)	1.984	0.576
6-10	17(22.1)	60(77.9)		
11-15	20(23.8)	64(76.2)		
>15	85(25.4)	85(70.2)		
Sero-status of spouse				
Positive	56(26.9)	152(73.1)	1.381	0.501
Negative	24(21.6)	87(78.4)		
Don't know	5(31.3)	11(68.8)		

*Statistically significant

DISCUSSION

The prevalence and determinants of unmet need for family planning among women of reproductive age visiting the ART clinic at JUTH were assessed in this study. The findings showed that the unmet need for family planning was 25.4%, of which 8.1% was for spacing and 17.3% was for limiting. The independent predictors of unmet for family planning were marital status, duration of HIV diagnosis, duration on HAART, and desire for more children.

The prevalence of contraceptive use found among HIV-positive women of reproductive age in Jos was just a little over half of the study population (56.4%). This figure is close to those found in studies conducted earlier in HIV-positive women of reproductive age in Jos (51.6%), Lagos-Nigeria (50.6%), and Tanzania (53.9%) respectively.[8,10-11]However, it was less than that found in a study conducted in Enugu, southeast Nigeria (73.1%).[12] The difference may be due to the high proportion of respondents with little or no education in our study as it has been shown that the use of contraceptives increases with high educational attainment.[2]

The finding of up to a quarter (25.4%) of our subjects having an unmet need for family planning in a Prevention of Mother to Child Transmission (PMTCT) setting was unexpected. However, this figure was comparable to findings in the southwestern (20%),[6,] and southeastern parts of Nigeria (26.9%).[12] It was however higher than the average unmet need for family planning in the general population of women within the reproductive age group (17%) across the country in the same year (NDHS 2018).[7] On the other hand, it was lower than the rate (32%) reported among PMTCT clients in Cross River, a state in southern Nigeria.[10] This may be suggestive of the disparities across states as well as between the general population and that of women living with HIV.[7] Furthermore, the study revealed that there was a greater unmet for limiting than for spacing (17.3% vs 8,1%) which is consistent with the report by Okunola et al in Ile-Ife, southwest, Nigeria (17.4% vs 2.6%).[6]

The majority of our subjects were married, older than 30 years, having at least two children, and were more likely to have completed their family size. This could be the reason why the proportion of unmet needs for limiting childbirth was more than twice the proportion of unmet for spacing (68.2% vs 31.8%). This is in contrast to findings from a southern Ethiopia study that revealed unmet need for spacing (13.2%) to be higher than that for limiting (5.9%), although their subjects were much younger than those in our study (mean age 29.1 yrs vs 37.4 yrs).[13]

Women in our study gave similar reasons for not using contraceptives as those found in other studies such as partner refusal, infrequent sexual activity, fear of adverse effects, and religious reasons.[5,6] These reasons serve as barriers to the use of effective modern contraceptives.[14]

The male condom was the most commonly used method of contraception among our study participants which is similar to other studies conducted in Nigeria and other African Nations.[15,16] The use of condoms is considered a good practice in this sub-group as it provides protection against unintended pregnancies, other sexually transmitted illnesses, and HIV super-infection.[17] In contrast, some other studies have reported the use of implants or injectables as the most commonly used contraceptive method among HIV-positive women of reproductive age.[16,,18-19] These differences may be attributed to differing regional policies on reproductive health and individual preference.

Marital status was a predictor of unmet needs for family planning as married women were 85% less likely to have unmet needs for family planning compared to those who were widowed. This is similar to the finding from the Cross-river study where married women who were PMTCT clients, were 80% less likely to have unmet needs for family planning compared to their unmarried counterparts.[10] Similarly, the Mexican national demographic survey (2014) also reported that women who were not in a union had a much greater unmet need for family planning than women currently in a union.[20] In conservative communities, premarital or extramarital sexual encounters are discouraged for the unmarried. Consequently, the fear of judgment or social stigma from society and even from healthcare workers may serve as barriers to the access and use of contraceptives. Some studies have shown that having children in marriage carries a lot of value in some conservative societies.[14,21] As a result, some women find it difficult to accept or express their desire to space or limit childbearing, which keeps them from using any kind of modern contraception and this may be the reason behind almost a quarter of the married women in our study having unmet needs for family planning.

In this study, the duration on HAART was a predictor of unmet needs for family planning. The majority of women in our study, who were on HAART for more than a year had significantly lower unmet needs for family planning than those who had been on HAART for a shorter duration. This may be because these women may have been more exposed to family planning information and have greater awareness as well as access to the use of contraceptives from the health talks given during clinic visits.[22] This is one of the benefits of the policy on early diagnosis and prompt commencement of treatment with HAART.[23]

The study also found that respondents with partner support had significantly lower unmet needs for family planning compared to those who had no partner support. This may be because partner involvement or support is a contributory factor to the use of contraceptives by women as some women require the consent of their male partners before using modern contraceptive methods.[10,21]

Limitations of the study

The sensitivity of the topic as well as the nature of the questions asked during the interview of

respondents may be prone to recall bias and social desirability bias. The assurance of confidentiality given to the respondent was expected to reduce this. The study design was a cross-sectional study so does not allow for causality assessment. The study participants were mainly married or in-union women with HIV and so, findings cannot be generalized to the unmarried women with unmet needs for family planning.

Table 6: Logistic regression of factors associated unmet need for contraceptives among HIV positive women

Predictors	AOR	95% C.I.	P
Marital status			
Married	0.150	0.027-0.835	0.030*
Divorced/separated	0.455	0.068-3.043	0.416
Widowed	1.0		
Duration of HIV diagnosis			
≤1yr	5.091	1.618-16.019	0.005*
>1yr	1.0		
Duration on HAART			
≤1yr	2.644	1.099-6.365	0.030*
>1yr	1.0		
Use of condom during last sex			
Yes	0.149	0.075-0.293	0.001*
No	1.0		
Husband support			
Yes	0.500	0.209-1.196	0.119
No	1.069	0.444-2.576	0.882
Don't know	1.0		

*Statistically significant

CONCLUSION

Almost half of the proportion of HIV-positive women were not utilizing contraception at the time of the survey. About a quarter had an unmet need for contraception and prominent reasons given for unmet need were opposition from a partner, fear of contraceptive side effects/health concerns, and no or infrequent sex. Factors associated with unmet needs for family planning were marital status, duration of HIV diagnosis, duration of HAARTs, use of condom during last sex, and husband or partner support. It is important that the barriers to contraceptive use among these women are addressed to mitigate the unintended negative consequences of non-utilization of contraceptives. Couple counseling and male partner involvement in family planning education sessions is recommended as early as possible after the diagnosis of HIV is disclosed to the clients.

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Authors' contribution: AGU, AHA, CCO and ZAI designed the study and had supervisory roles; AGU MDA and ARO conducted the field work; AGU and ARO analyzed the data with the visualization of data carried out by CCO; AGU, ARO and MDA. wrote the original draft while all authors were involved in reviewing, editing and final approval of the manuscript.

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