

IDENTIFYING THE UNMET NEED OF CONTRACEPTION AMONG HIV SEROPOSITIVE WOMEN ATTENDING ANTIRETROVIRAL TREATMENT (ART) CLINIC IN TERTIARY CARE CENTRE

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ABSTRACT

BACKGROUND

Contraceptive use among HIV positive women plays a crucial role in meeting their reproductive health needs. This is a study with the primary aim to estimate the magnitude of unmet need for family planning among HIV seropositive women of reproductive age in central India and to identify the various socio-demographic factors and reasons associated with unmet need for family planning.

MATERIALS AND METHODS

The study is an institutional cross-sectional study. The unmet need of 400 women with HIV positive status in reproductive age group (15-49 years) attending Anti-Retroviral Therapy (ART) clinic in a tertiary care center in central India was evaluated on the basis of their age, living region, type & size of family, education, duration of marriage, occupation, religion and by Modified BG Prasad sociodemographic class. The use of contraceptives and the reasons for not using any temporary or permanent method of family planning was evaluated.

RESULTS

The prevalence of unmet need of contraception in study population was found to be 28%. There is a significant association between age, education, socioeconomic status, type of family, duration of marriage, parity and HIV status of partner, duration of antiretroviral treatment with met and unmet needs of contraception. Little perceived risk of pregnancy was the most common reason for not willing to use contraception. Opposition from partner or family members, cultural & religious opposition (13%) also constitutes the major causes of not using contraception. Lack of awareness (1.8%) was the least common cause for reasons for not using contraception.

CONCLUSION

Efforts to integrate the family planning services and HIV care services, strengthening the traditional family programmes and expanding the access of contraception are prerequisites to reduce unmet needs.

KEYWORDS

Unmet Need, Contraception, HIV, Seropositive.

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BACKGROUND

India has a large number of people living with Human Immunodeficiency Virus (HIV).^{1,2} According to National AIDS Control Organization (NACO) in 2017, prevalence of HIV in between age group of 15-49 years was approximately 0.22%, and of these 42% were females.^{1,2} In 2017, 88,000 new cases of HIV were detected. 69,000 AIDS related death were estimated.² 86% of newer HIV infection was estimated to be sexually transmitted.³ People Living with HIV were

highest in Maharashtra state of India during 2017 which was approximately 15% of total average of India. NACO also stated that Maharashtra was 5th for contributing to new HIV infection. The number of people living with HIV in Maharashtra was approximately 330000.^{1,5} In 2016, prevalence of HIV in Sexual Transmitted Disease (STD) subjects was 18.4% in Maharashtra and 1.8% in pregnant women.^{4,5}

Contraceptive use among HIV positive persons plays a crucial role in meeting their reproductive health needs especially among discordant couples.⁶ Women on Highly Active Anti-Retroviral Therapy (HAART) are at increased risk of conception because of improved immunity and physical health, which may lead to more frequent sexual intercourse.⁷ One potential benefit of reducing the unmet need for family planning among HIV positive women is a reduction of the risk and incidence of Mother-To-Child Transmission (MTCT) of HIV infection.⁸ Women living with

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HIV, when optimally treated, appear to have similar reproductive patterns as women without HIV. To date no contraceptive method is absolutely contraindicated based on one's HIV status. Therefore, choice of contraceptive methods for persons with HIV is approximately similar to those without HIV.^{7,9}

But, there was only a marginal reduction of unmet need of family planning observed by NFHS-4. Contraceptive patterns and unmet need for family planning has been studied in Africa, in slightly differing scenarios.^{7,10,11} However, we were not able to identify any similar studies in India. This is a study with the primary aim to estimate the magnitude of unmet need for family planning among HIV seropositive women of reproductive age in central India and identify the various socio-demographic factors associated with unmet need for family planning and to explore common reasons for unmet need for family planning.

MATERIALS AND METHODS

Women with HIV positive status in reproductive age group (15-49 years) attending Anti-Retroviral Therapy (ART) clinic in a tertiary care center in central India were included in the study for a period of two years (December 2014 to November 2016). The study was an institutional cross-sectional study. The study was approved by institutional ethics committee. After this, an approval from the National AIDS Control Organization (NACO) was obtained. Women who were sexually active during the study period, and willing to participate in the study were included. Pregnant women or those in post-partum period, and those who were not willing to participate were excluded.

Sample Size

The study was calculated with the help of formula $n = \frac{z^2pq}{d^2}$. (n = Sample size, z = z value corresponding to a 95% level of significance = 1.96, p = expected proportion of population practicing FP = 40.6%=0.406, q = (1 - p), d = absolute precision (5%) which suggested a sample size of 371. For statistical convenience, 400 cases were studied. Subjects were enrolled in the ART clinic after assessing eligibility and the study procedure was explained and consent was taken.

Details of socio demographic characteristics, previous medical history and surgical history were noted. The met & unmet need were evaluated on the basis of their age, living region, type & size of family, education, duration of marriage, occupation, religion and by Modified BG Prasad socio demographic class. The use of contraceptives and the reasons for not using any temporary or permanent method of family planning was evaluated.

Statistical Analyses

The study sample described as categorical variables were reported as counts and percentages for categorical variables and mean± standard deviation (SD) for normally distributed continuous variables and median and interquartile range at 1st and 3rd quartile for none normally distributed continuous variables. The met and unmet need of contraception basis

of socio-demographic and knowledge, awareness and practice of contraception were compared with chi square test for categorical variables, and unpaired t test was used for continuous variables used. Two tailed significance at <0.05 were taken as statistically significant. The data was analysed using statistical software SPSS v23.

RESULTS

In our study, total 629 subjects were screened for the enrolment, out of which 179 did not consent to enrol in this study, 13 subjects were pregnant and 37 were in post-partum period. At the end of study total 400 subjects fulfilled the inclusion criteria and gave consent to participate in this study.

Out of total 400 HIV Seropositive women were recruited in this study, 112 patients were had unmet need of contraception. The prevalence of unmet need of contraception was 28%. (Table 1)

Need	Number	Percentage
Met	288	72
Unmet	112	28
Total	400	100

Table 1. Distribution of Study Subjects According to Met/Unmet Need of Contraception

Maximum study subjects belong to 30-40 years age group constituting 204(51%). Only few study subjects (2%) were in the age group between 10-20 years. The mean age of study subjects was 33.64 ± 6.6998 years. The distribution of study subjects according to age was separately analysed for met and unmet needs, in this table age group 15-20 years, 36-40 years, 46-50 years were statistically significant having p values of 0.0000, 0.0242, 0.0008 respectively. (table 2). There is a significant association between age and met and unmet needs of contraception. Unmet need of contraception was high in 15-20 years of age that is sexually active age group. Unmet needs of contraception were low in 36-40 years that is after completing family. Unmet need of contraception was high in 46-50 years because of little perceived risk of pregnancy and lack of contraception use, as it is peri menopausal age group.

Age Group	Met n=288		Unmet n=112		p-Value
	Number	Percentage	Number	Percentage	
15-20	0	0	11	9.82	0.0000*
21-25	25	8.68	15	13.40	0.1583
26-30	55	19.09	17	15.17	0.3596
31-35	85	29.51	28	25.00	0.3679
36-40	74	25.69	17	15.17	0.0242
41-45	47	16.31	16	14.28	0.6161
46-50	02	0.69	08	7.14	0.0008*
Total	288	100	112	100	

Table 2. Distribution of Study Subjects According to Age Group and Their Met/Unmet Needs

*Fisher exact test applied; all other values chi square test was used p values in red indicate significant values.

Most of study subjects belonged to the urban population 294 (73.50%) as compared to rural population (26.50%). When the patients are further divided according to their residence and their met and unmet needs of contraception then there was statistically significant correlation (p=0.000). Unmet need of contraception was low in urban areas and high in rural areas. (Table 3).

Residence	Met		Unmet		P value
	Number	%	Number	%	
Urban	241	83.68	53	47.32	0.000
Rural	47	16.32	59	52.68	
Total	288	100	112	100	

Table 3

Red values indicate significant values.

Most of the study subjects possessed high school certificate (28.75%) and intermediate / post high school diploma certificate (24.25%). Very few subjects were illiterate (1.25%). The table 4 shows primary school (p= 0.01), post high school (p= 0.0173), graduates/ post graduates (p= 0.01) were showing statistically significant association between met and unmet needs of contraception. Education is associated with need of contraception. Primary educated study subjects were having high unmet needs of contraception. After high school education unmet need of contraception significantly reduces.

Educational Status	Met		Unmet		p-Value
	Number	%	Number	%	
Illiterate	3	1.04	2	1.79	0.6221*
Primary School	8	2.78	18	16.07	<0.01
Middle School	57	19.79	38	33.93	0.0028
High School	82	28.47	33	29.46	0.8752
Post High School	79	27.43	18	16.07	0.0173
Graduate/ Post Graduate	59	20.49	3	2.68	<0.01*
Total	288	100	112	100	

Table 4. Distribution of Study Subjects According to Educational Status and Their Met and Unmet Needs of Contraception

*Fisher exact test applied, all other values chi square test was used p values in red indicate significant values.

In our study, most of the study subjects belong to class 4 with 156(39%) study subjects, class 5 were 116(29%). Class 3 and class 2 were 78(19.50%) and 50(12.50%) respectively. The table 5 shows that class 1 (p=0.0024), class 5 (p=0.0001) are showing statistically significant correlation between socioeconomic status and met and unmet needs of contraception. Socio economic status is inversely correlated with unmet needs of contraception.

Class 2(high socio-economic status) have low unmet needs of contraception. Class 5 (low socio-economic status) have high unmet needs of contraception.

Occupation	Met		Unmet		p-Value
	Number	%	Number	%	
Class 1	0	0	0	0	0
Class 2	45	15.63	5	4.46	0.0024*
Class 3	62	21.53	16	14.29	0.1007
Class 4	115	39.93	41	36.61	0.5406
Class 5	66	22.92	50	44.64	0.00001
Total	288	100	112	100	

Table 5. Distribution of Study Subjects According to Socio Economic Status and Their Met and Unmet Needs of Contraception

Modified B G Prasad Classification used, *Fisher exact test applied, all other values chi square test was used p values in red indicate significant values.

Out of 400 subjects, maximum study subjects 229(57.25%) were housewives, 95 were labourers (23.75%), and only 19 were skilled workers (4.75%). When the patients were further divided on the basis of occupation and their met and unmet needs of contraception (table. 6), housewives (66.6%) constituting maximum number were statistically significantly (p=0.000) associated with unmet needs of contraception and also there was significant association among labourer (p=0.000) and skilled patients(p=0.0027). Occupation is statistically correlated with their met and unmet needs of contraception. Labourers are having high unmet needs of contraception and housewives and skilled workers having low unmet needs of contraception.

Out of the 400 study subjects, 301(75.5%) had nuclear family and 99 were a part of joint family.

Occupation	Met		Unmet		p-Value
	Number	%	Number	%	
Housewife	192	66.67	37	33.04	0.000
Labourer	32	11.12	63	56.25	0.000
Semiskilled	45	15.63	12	10.71	0.2071
Skilled	19	6.59	0	0	0.0027*
Total	288	100	112	100	

Table 6. Distribution of Study Subjects According to Occupation and Their Met and Unmet Needs of Contraception

*Fisher exact test applied, all other values chi square test was used, P values in red indicate significant values.

Table 7 shows type of family of study subjects and their met and unmet needs of contraception were statistically significantly correlated (p=0.000). Nuclear family shows low unmet needs of contraception, whereas joint families have high unmet needs of contraception. Family size is directly correlated with unmet needs of contraception, because of

decreasing socio-economic status and higher chances of opposition from family members to use contraception.

Type of Family	Met		Unmet		p-Value
	Number	%	Number	%	
Nuclear	241	83.68	60	53.57	0.000
Joint	47	16.32	52	46.43	
Total	288	100	112	100	

Table 7. Distribution of Study Subjects According to Type of Family and Their Met and Unmet Needs

*Fisher exact test applied, all other values chi square test was used p values in red indicate significant values.

Maximum study subjects 114 (28.5%) have 10-15 years of duration of marriage. Very few study subjects 21(5.25%) were married since 25-30 years. The table 8 shows that Duration of marriage of study subjects within 5 years (p=0.006) and 10 years (p=0.0002) and their met and unmet needs of contraception are statistically significantly associated. Duration of marriage of study subjects is inversely correlated with unmet needs of contraception as in first five years of marriage; unmet needs are very high and unmet needs decreases as the duration of marriage increases.

Duration of Marriage	Met		Unmet		p-Value
	Number	%	Number	%	
0-5	48	16.67	36	32.14	0.0006
5-10	37	12.84	2	1.78	0.0002*
10-15	88	30.55	26	23.21	0.1441
>15	115	39.93	48	42.85	0.5927
Total	288	100	112	100	

Table 8. Distribution of Study Subjects According to Duration of Marriage and Their Met and Unmet Needs of Contraception

*Fisher exact test applied, all other values chi square test was used.
p values in red indicate significant values.

Maximum study subjects 162(40.5%) were primipara, 132(32.75%) were para 2, least 32 subjects (8%) were nulliparous. The table 9 shows that nulliparity (p=0.000) and para 2(0.0001) were significantly associated with met and unmet need of contraception, rest of the study subjects are not statistically correlated. In nulliparous study subjects unmet need of contraception is high and in para 2 met need of contraception is high. Parity is inversely correlated with unmet need of contraception.

Maximum patients 206 (51.5%) in our study group belonged to 0-5 years of HIV diagnosis and only few 6(1.5%) of them were diagnosed since 15-20 years. The table 10 shows that maximum study subjects 169 (42.25%) were on ART started 1-5 years of their HIV diagnosis. Only few study subjects 8 (2%) had not been yet started their ART since their HIV diagnosis. 349 (87.5%) study subjects

were having diagnosed Seropositive Partner, only few partners 19(4.75%) were seronegative. 32(8%) of study subjects were not diagnosed sero positivity status till date. The table 10 shows that there is positive significant association (p<0.01) between partner sero positive status and their met/unmet needs of contraception. Unmet need of contraception is inversely correlated with disclosure of partner sero positive status. After knowing the partners sero positive status, rate of use of contraception increases and their unmet needs of contraception decreases.

Parity	Met		Unmet		p-Value
	Number	%	Number	%	
0	4	1.38	28	25.00	0.000*
1	122	42.36	40	35.71	0.2240
2	110	38.19	21	18.75	0.0001
3	40	13.88	22	19.64	0.1563
4	12	4.16	1	0.89	0.1220*
Total	288	100	112	100	

Table 9. Distribution of Study Subjects According to Parity and Their Met and Unmet Needs of Contraception

*Fisher exact test applied, all other values chi square test was used,
P values in red indicate significant values.

Partner Sero Positive Status	Met (%)	Unmet (%)	p-Value
Not known	8 (2.78)	24 (21.43)	<0.01
Positive	261 (90.63)	88 (78.57)	<0.01
Negative	19 (6.60)	0 (0)	<0.01
Total	288 (100)	112 (100)	

Table 10. Distribution of Study Subjects According to Partner Sero Positive Status and Their Met/Unmet Needs of Contraception

Little perceived risk of pregnancy 40(35.7%) was the most common reason for not willing to use contraception. Opposition from partner or family members (18.9%), Cultural & religious apposition (13%) also constitutes the major causes of not using/discontinuation/irregular use of contraception. Lack of awareness (1.8%) was the least common cause for reasons for not using contraception. (table 11)

Reasons	Number	Percentage
Little Perceived Risk of Pregnancy	51	30.1
Opposition from Partner or Family Members	32	18.9
Cultural & Religious Apposition	22	13
Fear of Side Effects	18	12.4
Unavailability/Availability of Limited Choices	10	5.9

Poor Education & Socioeconomic Status	12	7.1
Inconvenient to Use	7	4.14
Inadequate Counselling of Couples	5	2.9
Health Concerns	4	2.3
Lactational Amenorrhoea*	3	1.8
Lack of Awareness	2	1.2
Total	169	100
Table 11. Distribution of Study Subjects According to Reasons for Not using /Discontinuation/Irregular Use of Contraception (N=169)		

Lactational amenorrhoea*- Post delivered patients >6 weeks but having amenorrhoea

DISCUSSION

Unmet need of contraception among seropositive women between 15-49 years had significant prevalence worldwide. Addressing and reducing the unmet need of contraception for family planning should be a major element for the global fight against new HIV infections.¹² This can be achieved only by fulfilling the needs of contraception of women to avoid/postpone future birth which can reduce the total fertility rate in future.⁸

In this study, we observed that, 28% (n=112) women in Central India have unmet need of contraception among 400 women who were HIV sero positive. Similar prevalence was observed by Laryea et al in Ghana (West Africa); where 27.8% women didn't meet their contraceptive needs.⁶ Age, residence as well as the quality of education also determine the use of contraception among women, in our study, significant percentage of unmet need observed in women who belonged to 36-40-year group ($p < 0.02$) and who had primary or secondary educational standard as compared to good educated and urbanized women. This is because of their lower socio-economic status, poor education, early marriage and inaccessibility or unavailability of contraception product at the rural area and due to little perceived risk of pregnancy in this age group as compared to younger age. Similarly, many studies conducted by some authors find similar observations,^{6,13,14,15} While regional difference observed by Adair et al in which 69.7% women living in rural area¹⁶ where as 73.3% in central India lives in urban area in our study.

In 2014, Laryea et al⁶ and 2015, Kebede et al¹⁵ conducted similar study; they observed 65.2% women were semiskilled and 38.5% were housewives or without any occupation, respectively. Similarly, in our study 57.2% women had no occupation and out of which 33.04% ($p < 0.001$) didn't meet their contraceptive need but among 28% women who didn't meet their contraceptive needs, 56.25% belonged to labourer class among ($p < 0.001$). Interestingly, significant percentage of unmet need among 28% women was observed with women belonging to nuclear family (53.57%) and who were within five year of marriage (32.14%).

There were many reasons for discontinuation or irregular use of various contraceptive methods, in 30.1% cases, women didn't used the contraceptives because of little perceived risk of pregnancy and 18.9% women reported opposition from partner of family members. Similarly, a study done by Yerpude et al¹¹ also reported 28.7% women had opposition from partner of family members while using different contraceptive methods.

The unmet needs were higher in rural part of central India the same was supported by NFHS-4 & DFHS-4 and the most common hurdles were lower socioeconomical status, poor education and lack of awareness about uses of contraceptive products in rural areas. In Maharashtra, decreasing trend of unmet needs of contraception was observed (9.7%). The unmet need of contraception were higher in urban (11%) than rural (8.6%) region; unmet need for spacing also declined from 5.3% to 4.3%^{17,18}

In our study, 87.2% of woman's partner had positive HIV sero positive status and only 4.75% had negative ($p < 0.001$). Partners HIV sero-positivity status is very essential, and it is directly associated with their contraception use. Met need of contraception was very high in whom the partner was HIV sero-negative because of use of dual method of contraception. Similar association observed with other authors which concur our study.^{13,15,19,20} In multi variate analysis done, it was found that those couples having discussion about family planning among them have low unmet needs, because the men's play a decisive role in use of family planning methods. Hence communication with male partner is crucial in hindering the obstacles like opposition from partner. Involving men in family planning enhances their contraceptive use rates and improved the continuation rates. This is supported by study done in Bhutajira and Ethiopia.²¹

In rural areas where there is lack of awareness about contraception, mass media and personal testimonials of satisfied users can make family planning methods more acceptable. Where contraception already is widely known, mass-media discussions and individual or group counselling can offer clients accurate information, reassurance, and encouragement.

Limitation

The primary limitation of our study is a cross sectional study conducted in health facility, hence precluding other associations and those who have less frequent visit to health care and there is a risk of social desirability bias because they may overt report their contraceptive use especially condom use because of perceived pressure from health care workers, as it is provided free in ART clinic. The sample may not be representative of the whole country because of cultural disparities across the country.

CONCLUSION

In central part of India, the unmet need of contraception was quite high (28%) among HIV sero positive women in their reproductive age. There was noticeable gap between awareness and the use of contraception. Literacy, socio-

economic condition, familiar support, variety of contraceptives, are the major factors that should be addressed to improve the contraceptive demands. It was also observed that the younger women had highest unmet need of contraception than older. Hence the efforts are needed to integrate the family planning services and HIV care services and to strengthen the traditional family programmes. Expanding the access of contraception are prerequisite to reduce unmet needs.

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