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Research Article

Impact of health education on unmet needs of contraception in urban slums of Chandigarh, India

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ABSTRACT

Background: Unmet need points to gap between some women reproductive intention and their contraceptive behavior. Unmet need for contraception is mainly attributed to lack of information, negative attitude, fear of adverse effects and social influences. The objective of this study was to investigate awareness and practice of contraceptive usage. And to estimate unmet need of contraception in the studied population and to identify the factors associated with it, and to evaluate impact of health education on unmet needs of contraception.
Methods: A community-based longitudinal study was conducted in four randomly selected urban slum areas (colonies) of Chandigarh, India. A systematic two-stage random sample design was adopted.
Results: Overall contraceptive awareness rates among women and men were increased from 84.1% to 96.3% and from 82.2% to 95.5% in post-interventional survey as compared to baseline survey. Contraceptive prevalence rates were found to be 57.3% and 65.5% respectively in pre interventional and post interventional surveys, against contraceptive awareness rates of 81.7% and 95.5% respectively, resulting in gaps between knowledge and practice to be unmet needs of contraception to the extents of 24.4% and 30.0% respectively in the two surveys.
Conclusions: There is an urgent need of adopting some population specific integral strategies for changing social norms and attitudes of couples regarding reproductive issues, increase in contraceptives awareness as well as practice for reductions in unmet needs of contraception and unwanted/unplanned pregnancies.

Keywords: Unmet needs, Improvident maternity, Reproductive health needs, Reproductive intention

INTRODUCTION

Population explosions in developing countries are the major problem which neutralizes all the gains and developments achieved in the country. Alarmingly rising population has its deleterious effect on developmental efforts. This problem has been addressed as the main objective in the national population policy (NPP), 2000.[1] The contraceptive prevalence rate in India was found to be 56 percent in NFHS-3 Survey.[2] Steady increase in the CPR from 41 percent in NFHS-1(1992-93) to 48 percent in NFHS-2 (1998-99). One of the main reasons for population growth is the low prevalence rate of contraceptive use. In India, in spite of availability of many contraceptive techniques, the couple protection rate (CPR) continues to be inadequate. Contraception as a behavioural phenomenon has been the focus of many population researches. Most couples in India do not want to use a contraceptive method on a long-term basis for the fear of side-effects, or do not like to use a method linked with coitus. Hence, unwanted and unplanned pregnancies are quite common leading to improvident maternity. Improvident maternity is defined as women who had already given birth to three children of whom at least one is alive. Many women who want to space or limit births do not currently use contraceptive. There is a gap between the desire to use the contraceptive method and the actual use of contraceptive method. The concept of unmet need points to gap between some women reproductive intention and their contraceptive behaviour. This gap, called the unmet need for contraception, is mainly attributed to lack of information, negative

attitude, fear of adverse effects and social influences. Unmet need for family planning is an important indicator for assessing the potential demand for family planning services. In doing so, it poses a challenge to family planning programmes. Meeting this unmet need for contraception is one of the top priorities for family planning programs. NFHS-3 Survey, currently married women who are not using any method of contraception but who do not want any more children are defined as having an unmet need for limiting and those who are not using contraception but want to wait two or more years before having another child are defined as having an unmet need for spacing.[2] The sum of the unmet need for limiting and the unmet need for spacing is the unmet need for family planning. The total demand for family planning is the sum of unmet need and met need. Among the common reasons reported for unmet need are inconvenient or unsatisfactory services, lack of information, fears about contraceptive side effects and opposition from husbands, relatives or others. In a study while studying men's knowledge, awareness and extent of their participation in the key areas of reproductive and child health looked at agreement between husbands and wives on the unmet need for family planning.[3] Correlates of unmet need of contraception are population specific showing regional variations. Present study aims at finding the extent and factors influencing unmet need of contraception and also to evaluate impact of health education interventions on it. The study presents some of results of a detailed survey conducted under ICMR funded project undertaken in urban slums of Chandigarh with the following specific objectives:

The objective of this study was to investigate awareness and practice of contraceptive usage. And to estimate unmet need of contraception in the studied population and to identify the factors associated with it. And to evaluate impact of health education on unmet needs of contraception.

METHODS

A systematic two-stage random sample design was adopted. At the first stage, from the sampling frame available a sample of four slum areas (primary stage units) was selected systematically with probability proportion to size (PPS). At the second stage, a sample of households as second stage units was selected within each selected PSU of an optimum size with proportional allocation. Cluster randomization was done to assess the impact of health education interventions on unmet need of contraception. Out of four randomly selected clusters, two clusters were randomly assigned to study group and remaining two clusters were assigned to control group. At the baseline/pre-intervention survey (survey-I), the knowledge regarding contraceptive and reproductive behavior of couples was assessed for all selected couples in four randomly selected slum areas (colonies). Couples of study group selected in the baseline survey were provided interventions in terms of health education regarding reproductive health/fertility related issues. No active intervention was given to study subjects belonging to control group. Post intervention survey was conducted in all four selected clusters. Outcome parameters in both the groups were compared. All respondents (women and their spouses) within selected households were interviewed separately in privacy to collect the desired information. A few couples who were lost to follow-up due to any reason such as migration etc. were excluded from analysis.

The design of this study was community-based longitudinal study was conducted in four randomly selected urban slum areas (colonies) of Chandigarh, India.

The units of this study was couples having wife in the reproductive age (15-49 years) along with their spouses willing to participate in the study through-out the study period served as study units or respondents.

The optimum sample size was power analysis was done to calculate optimum sample size for the proposed cross - sectional study using the following formula with approximation for large population:

$$N_{opt.} = \frac{Z^2_{1-\alpha/2}\,(1-P)}{\epsilon^2\,P},$$

Where,

P = Anticipated population proportion
$1 - \alpha$ = Confidence coefficient
ϵ = Relative precision, and
Z (.) is the value of standard normal variate.

Sample of an optimum size of 634 couples, having wife in the reproductive age (15-49 years) was attained. Optimum sample size was further elevated by 20% in order to adjust drop-outs and accordingly it was initially planned to cover 760 couples. Subsequently respondents who were lost to follow-up were excluded from analysis and ultimate sample included results of 667 couples only.

Variables of this study was information on socio-cultural and demographic characteristics, reproductive/fertility behavior and several other variables was collected using a predesigned and pretested semi-structured interview schedule by conducting house-to-house survey. Respondents were interviewed in privacy to collect the desired information. The interview was conducted at the respondent's home. Both husband and wife were interviewed by the same interviewer. All possible efforts were made to reduce non-responses including frequent visits. Approval by institutional ethics committee (IEC) was granted.

RESULTS

Table 1: Baseline demographic characteristics by current contraceptive use.

Characteristic	N	Users number (%)	Non users number (%)
Age of wife			
<18	11	1 (9.1)	10 (90.9)
18-25	204	97 (47.5)	107 (52.5)
26-35	319	196 (61.4)	123 (38.6)
36-49	133	88 (66.2)	45 (33.8)
Mean±SD		30.68±6.56	28.33±6.91
		(P<0.001)	
Age of husband			
19-25	116	48 (41.4)	68 (58.6)
26-35	328	186 (56.7)	142 (43.3)
36-49	211	142 (67.3)	69 (32.7)
>49	12	6 (50.0)	6 (50.0)
Mean±SD		34.83±7.54	31.69±7.24
		(P<0.001)	
Marital age of wife			
10-14	48	27 (56.3)	21 (43.7)
15-17	145	86 (59.3)	59 (40.7)
18-20	263	161 (61.2)	102 (38.8)
21-22	114	60 (52.6)	54 (47.4)
23-25	83	42 (50.6)	41 (49.4)
Above 35	13	6 (46.2)	7 (53.8)
Mean±SD		18.59±3.24	18.44±3.23
		(P=0.37)	
Marital age of husband			
10-14	14	6 (42.9)	8 (57.1)
15-17	58	36 (62.1)	22 (37.9)
18-20	87	49 (56.3)	38 (43.7)
21-22	194	115 (59.3)	79 (40.7)
23-25	229	131 (57.2)	98 (42.8)
Above 35	85	45 (52.9)	40 (47.1)
Mean±SD		21.44±3.43	21.74±3.79
		(P=0.34)	
Family type			
Nuclear	419	253 (60.4)	166 (39.6)
Joint/extended	248	129 (52.0)	119 (48.0)
		X^2=4.45 (P=0.03)	
Improvident maternity status			
No	376	192 (51.9)	184 (48.9)
Yes	291	190 (65.3)	101 (34.7)
		X^2=13.6 (P< 0.001)	
Prior place of living			
Within Chandigarh	356	195 (54.8)	161 (45.2)
Outside Chandigarh	311	187 (60.1)	124 (39.9)
		X^2=1.94 (P=0.16)	
Socio-economic status			
Middle/high	72	40 (55.6)	32 (44.4)
Low	595	342 (57.5)	253 (42.5)
		X^2=0.097 (P=0.75)	
Having female child			
No female	440	276 (62.7)	164 (37.3)
At least one	227	106 (46.7)	121 (53.3)
		X^2=15.7 (P< 0.001)	
Having male child			
No male	493	306 (62.1)	187 (37.9)
At least one	174	76 (43.7)	98 (56.3)
		X^2=17.8(P<0.001)	
More daughters than sons			
No		257 (56.5)	198 (43.5)
Yes		125 (59.0)	87 (41.0)
		X^2=0.36 (P=0.55)	
Last pregnancy wanted			
No	320	192 (60.0)	128 (40.0)
Yes	347	190 (54.8)	157 (45.2)
		X^2=1.87 (P=0.17)	
Overall	667	382 (57.3)	285 (42.7)

Table 1 presents comparison of baseline characteristics of current contraceptive users and non-users. Contraceptive prevalence rate (CPR) was found to be maximum (66.2%) among women aged 36-49 years, and it was also maximum (67.3%) in case of their spouses belonging to this age group. Mean ages of women using contraceptives was found to be 30.68±6.56 and that for non-user women 28.33±6.91 years with highly significant difference (P<0.001). Similarly for this age group 36-49 years for men, 142(67.3%) contraceptive prevalence rate was observed. Mean ages of men using contraceptives and not using any contraceptive were found to be 34.83±7.54 and 31.69±7.24 years respectively. This difference was also found to be highly significant (P<0.001). Contraceptive use was more prevalent in case of elderly and younger ages at marriage for men and women. Mean ages at marriage were found to be 18.59±3.24 for users and 18.44±3.23 for non-user women. Similarly, Mean ages at marriage were found to be 21.44±3.43 for users and 21.74±3.79 for non-user men. These mean ages for both women and men were not found to differ significantly in the two groups. Contraceptive use was more common in case of nuclear families (60.4%) as compared to their counterparts (52.0%). Type of family was significantly associated (P=0.03) with contraceptive use. Prior place of living was not found to be a significant correlate (P=0.16) of contraceptive use. Contraceptive prevalence rate in case of improvident maternity (63.4%) was significantly higher (P=0.005) as compared to that for non-improvident couples (52.4%). Contraceptive use was also significantly associated (P=0.005) with improvident maternity. No significant association (P=0.75) was observed between contraceptive use and SES. Contraceptive use by couples having no male child was also increased significantly in case of (62.1%) as compared to among those having at least one male child (43.7%). There was significant association (P<0.001) between contraceptive use and having male child. Desire for last pregnancy was not found to be a significant correlate of contraceptive use (P=0.17).

Table 2: Contraceptive behaviour and unmet needs of contraception in study and control group.

Outcome parameter	Study group		Control group	
	Survey-I	Survey-II	Survey-I	Survey-II
	348	348	319	319
Contraceptive awareness and practice				
Contraceptive knowledge of wife	275 (79.0)	333 (95.7)	286 (89.7)	309 (96.9)
Contraceptive knowledge of husband	263 (75.6)	330 (94.8)	285 (89.3)	307 (96.2)
Contraceptive knowledge of couples	278 (79.9)	333 (95.7)	286 (89.7)	308 (96.6)
Current contraceptive prevalence	201 (57.7)	237 (68.1)	181 (56.7)	200 (62.6)
Use of permanent method	70 (20.1)	87 (25.0)	79 (24.8)	92 (28.8)
Unmet need of contraception	82 (41.2)	51 (29.6)	46 (38.0)	40 (35.5)
Use of permanent methods among couples having no desire for last child	51 (25.6)	58 (33.7)	37 (30.6)	34 (29.3)
Wanted birth spacing				
Uncertain/unplanned	184 (52.9)	204 (58.6)	220 (68.9)	220 (68.9)
Wanted	73 (21.0)	64 (18.4)	87 (27.3)	78 (24.5)
Not wanted/completed family size	81 (23.3)	80 (23.0)	12 (3.8)	21 (6.6)
Use of spacing methods				
Among couples with uncertain/unplanned birth spacing	154 (83.7)	153 (75.0)	166 (75.5)	159 (72.3)
Among couples wanted birth spacing	59 (80.8)	51 (79.7)	67 (77.0)	59 (75.6)
Among couples not wanted birth spacing /completed family size	65 (71.4)	57 (71.3)	7 (58.3)	9 (42.9)
Overall use of spacing methods	278 (79.9)	261 (75.0)	240 (75.2)	227 (71.2)

Table 2 shows comparison of some fertility related outcome parameters of interest in the study and control groups. Contraceptive knowledge of women as well as their spouses was found to increase significantly in both the groups. Extent of changes in knowledge status of couples regarding contraception were comparatively more in study group (from 79.9% to 95.7%) as compare to that in control group (from 89.7% to 96.6%).Hence, health education can play an important role in increasing awareness regarding contraception. Also changes in contraceptive prevalence rates in study group (from 57.7% to 68.1%) was comparatively more in study group as compare to that in control group (from 56.7% to 62.6%). There was increase in both awareness and practice of spacing as well as permanent methods for both groups but better outcomes were observed for study group. For the study group, unmet need of contraception was reduced from existing level of 41.2 to 29.6% while it came down from 38.0% found in baseline survey to only 35.5% for the control group. Use of permanent methods increased among couples who have already attained their desired family size. Proportion of unplanned pregnancies showed more increments for study group as compared to that for control group. Spacing methods were being used even without proper planning and objectives, even by those couples who wanted no more children.

DISCUSSION

PPROM complicates only 3% of pregnancies but is highly significant gaps (P<0.001) between knowledge and practice of contraception in both the groups were observed in the present study between knowledge and practices of contraception. Contraceptive prevalence rates were found to be 57.3% and 65.5% respectively in pre interventional and post interventional surveys, against contraceptive awareness rates of 81.7% and 95.5% respectively resulting in gaps between knowledge and practice to the extents of 24.4% and 30.0% respectively in the two surveys.

CPR was found to be about 49.9% in Dehradun about 48% of couples of 15-45 years.[4] of age were reported practicing family planning methods in India.[5] Contraceptive 'ever users' rate was found to be 75% in Delhi.[6] Whereas, almost half of the subjects were using some family planning methods in Orissa and about 1/3rd of them relied on traditional method of contraception.[7] In the rest of respondents female sterilization predominated. The contraceptive acceptance was higher among improvident women who had one or more living sons.

In the present study, among couples having undesired last pregnancy, 60.0% in pre-intervention survey and 68.4% in post intervention survey were using at least one contraceptive, meaning thereby unmet needs of contraception to be 40.0% and 31.6% in the two surveys respectively as they were not using any method of contraception in spite of no desire of child/undesired last pregnancy.

The NFHS-2 reported that nearly 16 per cent of currently married women had an unmet contraceptive need, 8.3 per cent for spacing and 7.5 per cent for limiting.[8] According to UNPF report (2004) about 2001 million women had unmet need of effective contraception.[9] High degree of agreement/concordance (93.5%) regarding unmet need of family planning amongst women and their spouses were observed in an earlier study and females reported greater unmet need of family planning. Among 82.5%) of these cases both husbands and wives did not have unmet need of family planning. In 6.5% cases both had unmet need.[10]

Changes in contraceptive prevalence rates in study group (from 57.7% to 68.1%) was comparatively more in study group as compare to that in control group (from 56.7% to 62.6%). For the study group, unmet need of contraception was reduced from existing level of 41.2 to 29.6% while it came down from 38.0% found in baseline survey to only 35.5% for the control group.

CONCLUSION

Present study reported high degree of unmet need. Health education can play an important role in increasing awareness and practice of contraception. It was also helpful in reduction of unwanted pregnancies and addressing other reproductive health needs by reducing unmet needs of contraception.

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