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Original Research Article

Unmet need for contraception among eligible women of urban slums in Chennai

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ABSTRACT

Background: Unmet need for family planning is a crucial indicator to assess demand for family planning programme. It was reported that women from the world's poorest countries have a high unmet need for contraception. Unmet need is particularly high among immigrants, urban slum dwellers, and women in the post-partum period. The objective of this study was to assess the unmet need and factors influencing the unmet need for contraception among urban slum dwellers in Chennai, South India.
Methods: A community-based cross-sectional study of 375 married women was conducted among 50 urban slums of Chennai. Multistage random sampling was employed. About 6-9 women from each slum were interviewed. A semi-structured questionnaire was used to obtain data.
Results: The mean age of the participants was 32.1±7.3 years. The total unmet need was 13.8%, which included 9.3% for limiting and 4.5% spacing. The major reasons for contraception non-use among women with unmet need were no preference to use modern contraceptives (30.8%) and preference to get sterilized soon (21.2%). Age, education, religion, and number of living children were the factors associated with unmet need.
Conclusions: It was noted that unmet need reduced with age and increased number of living children. Though the unmet need is considerably low compared to other studies it is evident that women are still uncertain to use modern contraceptive methods for spacing and are more likely to undergo sterilization after their desired family size is achieved.

Keywords: Unmet need, Contraceptive choices, Family planning, Unintended pregnancy, Urban slum

INTRODUCTION

India is the first country to frame and implement a countrywide family planning programme in 1952. Since the evolution of the programme the approach towards the programme had been shifting. Owing to the rapid population growth the initial approach to family planning was population stabilization which was later directed to decrease the maternal mortality and infant mortality rates. The "international conference on population and development, 1994" mainstreamed the concept of unmet need as an important family planning indicator and exerted more prominence to health and reproductive rights-based approach for family planning programmes. In India, it was through the ninth five-year plan (1997-2002) a need-based approach to family planning was taken to consideration facilitating married couples to use contraception voluntarily to achieve their reproductive goals.[1,2]

The term "unmet need for family planning" was developed in the late 1970s by Westoff which was initially called the "KAP gap". Formerly the definition was regulated only to women who wish not to have children further and are not using contraception. In 1981, Westoff and Publey proposed the concept of desire to spacing birth to be included in unmet need. Minor variations have been made in classifying unmet need over the years, the current revised definition by Bradley et al states that unmet need is the "percentage or number of

currently married women who are fecund and who want to either postpone childbirth for the next 2 years or unsure if or when to have next child or who wants to stop further childbearing and is not using any method of contraception".[3,4] Unmet need for contraception is an important indicator which largely influences the reproductive and mental health of women. There are several causes for unmet need which include lack of accessibility to family planning services, fewer choice of contraception, insufficient knowledge on contraception, fear of side effects, disapproval to use contraception from partner or in-laws. Unmet need is also attributed to the deprived quality of family planning services.[5]

The global estimate of unmet need had dropped from being 15.4% in 1990 to 12.3% in 2010.[6] As per national family health survey 1 (NFHS-1) (1992-93) the unmet need in India was 19.5% which has dropped to 12.9% as per NFHS-4 (2015-16). The prevalence of modern contraceptive use has also improved from 36.5% in 1992-93 to 51.2% in 2015-16.[7] Though the worldwide prevalence has shown improvements in estimates, the non-use of contraception and unmet need is still considerably high in specific population clusters such as adolescent girls, migrants, refugees, and urban slum dwellers and post-partum women.[8] Studies conducted previously have reported significant disparities in various reproductive health factors between slum and non-slum populations in India.[9] Studies conducted on unmet need for family planning in India specifically among slum dwellers have reported a very higher unmet need of 40.6% in Mumbai slums and 46.2% in Ahmedabad slums.[10,11]. According to Census 2011, the total slum reported towns in India are 2613 and a total population of 65,494,604 resides in slums. Tamil Nadu state is home to 8.9% of India's slum population.[12] According to NFHS-4, the unmet need in Tamil Nadu was 10% and the contraceptive prevalence rate was 53%.[13] There is very limited literature particularly on unmet need among slums dwellers in Chennai. Provided that Tamil Nadu has very good health infrastructure and good performance indicators this study aims to assessing the unmet need and factors influencing the unmet need among urban slums dwellers in Chennai.

METHODS

A community-based cross-sectional study was conducted in 50 urban slums of Chennai municipal corporation area from January to June 2019. The sample size was calculated using the formula $N= (z)^2 p (1-p)/d^2$, with reference to a study conducted by Malini et al in Cuddalore district of Tamil Nadu the prevalence (p) of unmet need was taken as 39%.[14] Using level of confidence for 95% confidence interval and 5% margin of error the calculated sample size was 365. Married women aged 18-49 years living with husband were included in the study. Women who have self-reported to be infertile were excluded from the study. Institutional ethical clearance was obtained (IEC 843/2018). The slums were selected randomly from 5 administrative zones of greater Chennai corporation; list of slums from those 5 zones was obtained from Tamil Nadu Slum clearance board. Ten slums from each zone were selected using simple random sampling. A household was randomly selected on entering the slum and further consecutive households were visited till at lest 6 to 8 women were interviewed from each slum. A semi-structured questionnaire was designed based on the questionnaire used for the NFHS 4. The questionnaire had sections on socio demographic details, fertility preference and contraceptive use. A total of 375 women were interviewed. Written informed consent was obtained from all the participants in the presence of a witness, in case of illiterate participants the consents were administered in local language and all their questions were answered. The Unmet need was classified according to the revised definition for unmet need by Bradley et al.[3,4] Presence of unmet need for contraception was defined as the sum of unmet need for spacing and unmet need for limiting (Figure 1). The socio-economic status was classified using modified Kuppuswamy scale.[15] Data was analyzed used SPSS version 16. Sociodemographic information and unmet needs were summarized as frequency and percentages. The unmet need was the outcome variable and the other socio-demographic factors were the independent variables. Chi-square or Fisher's exact tests were performed to find the association between unmet need and background characteristics of the respondents. A $p<0.05$ was considered to be statistically significant.

RESULTS

The mean age of participants was 32.1±7.3 years. Of the 375 participants, 31.2% have had completed middle school and 27.5% completed high school level of education, about 11.7% of the women were illiterate or did not complete primary schooling. More than four-fifth of the respondents were housewives (82.4%). As per modified Kuppuswamy scale classification, 67.5% of the families belonged to the upper-lower socio-economic class. About 69% women got married between 18-25 years (Table 1). The decision on family size in 86.4% and decisions on spacing in 87.2% were mutually taken by the couple. About 25.6% of them had their first child when they were below 19 years. Out of 83 women who had abortion, 10 women underwent induced abortion for unintended pregnancy. Among the participants, 77.1% had knowledge of at least one spacing method. About 374 participants out of 375 (99.7%) were aware of sterilization as the permanent method of contraception. More than three-fourth (76%) respondents knew about copper T, 15.7% knew about condoms and 13.1% about oral pills and 0.8% knew about injectable. The prevalence of current contraceptive use was 72.3% which includes sterilization 62.7%, copper T 8.0% and condoms 1.6%. About 42.1% of the women have never used any spacing method before terminating their fertility. None had practiced contraception before their first pregnancy. The median gap between the first and the second child in our

study was 15 months (IQR 12-29 months). Copper T was the most commonly used method to space the second birth. It was reported that 51 (38.9%) women out of 131 women who ever used copper T discontinued to use due to discomfort and side effects. When asked about preference for spacing methods only 27.7% respondents preferred to use modern methods for spacing. Only seven women had ever used more than one method of modern contraception.

The unmet need for limiting and spacing was 9.3% and 4.5% respectively, the total unmet need was 13.8%. (Figure 1). The major reason for not using contraception among women who had unmet need was women who preferred not use modern methods (30.8%) and women who did not want to use temporary modern methods and wants to get sterilization soon (21.2%) these women have already achieved their desired family size (Table 2). The associations between various socio-demographic factors and unmet need are presented in Table 3. Significant associations were found between unmet need and age, higher unmet need was among young women ($p \leq 0.001$), unmet need increased as education status increased ($p=0.001$), Muslims had more unmet need than others ($p=0.037$) and unmet need reduced as the number of living children increased ($p \leq 0.001$).

Table 1: Socio-demographic profile among the participants, (n=375).

Variables	Categories	Frequency	Percentage (%)
Age (years)	18-27	109	29.1
	28-37	162	43.2
	38-49	104	27.7
Education	Illiterate	44	11.7
	Primary school	7	1.9
	Middle school	117	31.2
	High school	103	27.5
	Intermediate/Diploma	65	17.3
	Graduate	36	9.6
	Professional/Honor's	3	.8
Occupation	Housewife	309	82.4
	Employed	66	17.6
Religion	Hindu	309	82.4
	Muslim	31	8.3
	Christian	35	9.3
Type of family	Nuclear	235	62.7
	Joint	140	37.3
Socio-economic class (Modified Kuppuswamy) *	Upper middle	19	5.1
	Lower middle	75	20.0
	Upper lower	253	67.5
	Lower	15	4.0
Age at first marriage (Years)	<18	84	22.4
	18-25	258	68.8
	>25	33	8.8

*n=362, due to non-response as income of husband not known and no one belonging to upper class were observed in the sample.

Table 2: Reasons for not using contraception among women with unmet need, (n=52).

Reasons	Unmet need for limiting, (N)	Unmet need for spacing, (N)	Total, N (%)
Fear of side effects	6	3	9 (17.3)
Wants to get sterilized soon	11	0	11 (21.2)
Prefer not to use modern methods (pills, condoms, IUDs and injectable)	11	5	16 (30.8)
Girl child preference	3	0	3 (5.8)
Boy child preference	1	0	1 (1.9)
Partner disapproved	1	1	2 (3.8)
Not aware	0	4	4 (7.7)
Discontinued copper T due to side effects not willing to use other methods	2	4	6 (11.5)
Total	35	17	52 (100)

Table 3: Association of unmet need with socio-demographic factors, (n=375).

Variables	Categories	Unmet need present, n=52 (%)	Unmet need absent, n=323 (%)	P value
Age (years)	18-27	28 (25.7)	81 (74.3)	<0.001*
	28-37	19 (11.7)	143 (88.3)	
	38-49	5 (4.8)	99 (95.2)	
Education	Illiterate	2 (4.5)	42 (95.5)	0.001*
	Primary/middle school	7 (5.6)	117 (94.4)	
	High school	21 (20.4)	82 (79.6)	
	Intermediate/diploma	12 (18.5)	53 (81.5)	
	Graduate	10 (25.6)	29 (74.4)	
Occupation	Housewife	46 (14.9)	263 (85.1)	0.216
	Employed	6 (9.1)	60 (90.9)	
Socio-economic class (modified Kuppuswamy scale)	Upper middle	5 (26.3)	14 (73.7)	0.098
	Lower middle	13 (17.3)	62 (82.7)	
	Upper lower	31 (12.3)	222 (87.7)	
	Lower	0 (0.0)	15 (100)	
	Income not known	3 (23.1)	10 (76.9)	
Religion	Hindu	37 (12.0)	272 (88.0)	0.037*
	Muslim	9 (29.0)	22 (71.0)	
	Christian	6 (17.1)	29 (82.9)	
Type of family	Nuclear	30 (12.8)	205 (87.2)	0.424
	Joint	22 (15.7)	118 (84.3)	
Age at first marriage (years)	<18	5 (6.0)	79 (94.0)	0.055
	18-25	41 (15.9)	217 (84.1)	
	>25	6 (18.2)	27 (81.8)	
Number of living children	0	2 (8.0)	23 (92.0)	<0.001*
	1	28 (36.4)	49 (63.9)	
	2	20 (9.7)	187 (90.3)	
	>2	2 (3.0)	64 (97.0)	

* Statistically significant.

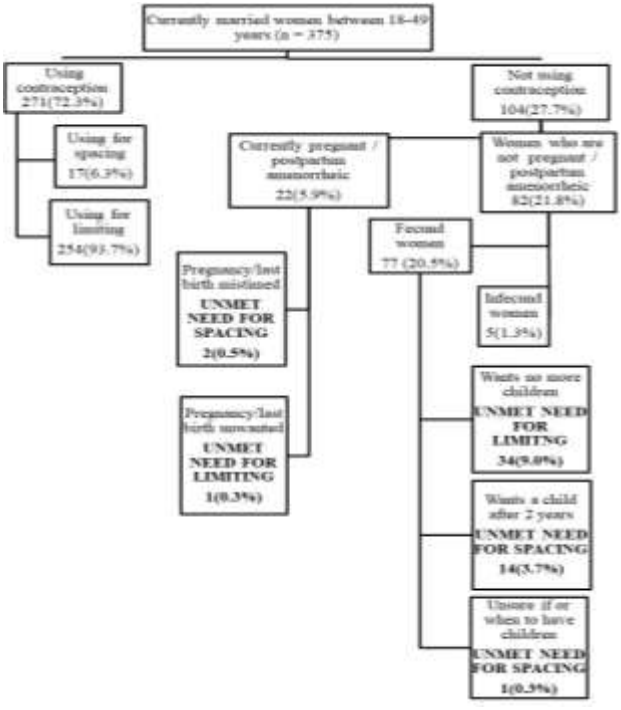

Figure 1: Unmet need classification.

DISCUSSION

This study revealed a contraceptive prevalence rate of 72.3% and a total unmet need of 13.8%. Sterilization was the most predominant method of contraception (62.7%), and less than 10% of the women in slums reported using other methods such as condoms and intrauterine contraceptive devices. A similar trend was also noted in a study conducted by Singh et al among the slum dwellers of Uttarakhand.[16] Likewise, a study conducted by George et al in Karnataka has stated that the majority of them were sterilized and only 10.7% of them used temporary spacing methods like pills, copper T and condoms.[17] The use of temporary contraceptives was not very prevalent in most of the studies. A review conducted by Pradhan et al using the data from all the four rounds of the India's NFHS also shows that female sterilization is the predominantly practiced method of contraception.[18] This high level of prevalence for permanent method indicates there must be knowledge and method related concerns for not using the temporary methods and also might indicate low level of awareness towards spacing births and its health importance. It was also found that median spacing between first and second child among our study population was only 15 months which is far less

compared to the WHO recommended gap of 36 months.[9] It was also noted that none had practiced contraception to space their first child after marriage. This has a substantial implication that the healthcare workers and the urban ASHAs (USHAs) must strongly emphasize spacing between births which can further improve the maternal and child health outcomes. Spacing the first birth after marriage is also as important as spacing between births as it will enable the couple to plan the family better and prepare them for better parenting. Though newer contraceptive methods like injectables have been in market since early 1990's only in 2017 injectables were introduced into the system. The awareness on injectable contraceptive was very low (0.8%) among our study population.

The total unmet need for contraception was 13.8% which includes 9.3% limiters and 4.5% spacers. Studies conducted in other South Indian states of Karnataka and Kerala have reported a total unmet need of 16% and 21.2% respectively.[19,20] Studies conducted explicitly in slums of North India such as Ahmadabad, Mumbai, Uttarakhand had reported much high unmet need of 46.2%, 40.6% and 29.7% respectively.[10,11,16] Research conducted in underdeveloped countries like Ghana, Ethiopia, and Cameroon have also reported a considerably high unmet need of 70.8%, 52.2%, and 46.6% respectively. [21-23] It was noted that unmet need in this study was comparatively less when compared to other studies conducted in slums of other parts of the country and other underdeveloped counties and none of the participants have mentioned non-accessibility of contraception as an underlying cause for not using contraception. This might be potentially due to the well-established and acclaimed public healthcare delivery system in Tamil Nadu.[24] It was noted that studies conducted among slums dwellers in India show a higher unmet need for limiting than spacing which was also observed in this study.[10,11,16] This might be due to a high preference for sterilization and less preference to use temporary methods for spacing. This is also suggestive that there is less felt need for spacing. About 38.9% of the women who ever used copper-T have discontinued it due to side effects and discomfort. Previous studies have also reported high contraception discontinuation rate among slum dwellers than non-slum dwellers.[9] Addressing method related issues and providing them with method switch choices will reduce the risk of unplanned and unwanted pregnancies.

The major reasons for unmet need reported in this study were 'no preference' to modern contraceptive methods (30.8%), preference to get sterilization soon (21.2%) and fear of side effects (17.3%) which were similar to the reasons reported for non-use of contraception in other studies.[25,26] The women who prefer to get sterilized soon were not willing to use modern temporary methods due to method related concerns. It was also remarkable that 5.8% of the women with unmet need were attributed to girl child preference, not many of the Indian studies have reported a girl child preference. According to this study, the decision on use/non-use of contraceptives were made jointly by husband and wife. Only two respondents mentioned that the reason for their unmet need was the husband's disapproval. Though not statistically significant, the women belonging to joint families and not working/earning reported higher levels of unmet need than their counterparts. The proportion of women who were not using contraception due to partner disapproval was 3.8% which was less when compared to the study conducted by Singh et al in Haryana which has reported 8.3% which might indicate better literacy and decision making power among women in our study.[27,28] It was noted that unmet need was noted high among women between 18-27 years which was 53.8% of the total unmet need when compared to older women ($p \leq 0.001$), women with single child had more unmet need when compared to women with 2 or more children ($p \leq 0.001$). This might indicate that as women achieve their desired family size, they undergo sterilization. Corresponding results were also reported from a study conducted in urban Mumbai slums, high unmet need was noted in women below 27 years and with 1 living child.[10] Young women have more unmet need as they might not have sufficient knowledge of contraception and also older women who achieved the desired family size will undergo sterilization. Unlike most of the studies, our study has reported women with higher education qualification having more unmet need ($p=0.001$) similar trend was also observed in a study conducted by Malini et al in Cuddalore district of Tamil Nadu.[14] This might point to the gap between knowledge and practice of contraception. Though there was good access to healthcare and knowledge of contraception women, the adoption of temporary contraceptives was low.

Limitations

This standard definition and tool for unmet need do not include women who opted for abortion because of unwanted pregnancy, which also could be indicative of an unmet need for contraception. A qualitative study might help to better understand the interactions of socio-cultural and other contextual factors on unmet needs of contraception in slum women.

CONCLUSION

This study revealed that unmet need for family planning among slum population in Chennai is substantially low compared to those reported from other studies conducted elsewhere in the country, which might be owing to the good access to health care, strong health systems and decision-making power among women in Chennai. Though the unmet need and contraceptive prevalence were low, it was evident that majority of women still do not prefer to use modern contraceptive methods for spacing and more likely to undergo sterilization after their desired family size is achieved. It's time we reprioritize our indicator from achieving the target fertility rates to

achieving desired spacing between births provided that the earlier has seen significant improvement in states like Tamil Nadu and Kerala.

Recommendations

There needs a huge emphasis on spacing births and encouraging women in urban slums to adopt modern methods for spacing births and increasing the choice of contraceptives like injectable contraceptive and pills and providing them the option of method switch if any method related concerns arise will enable women to make informed choices. Effective family planning counseling will help reduce the method related concerns, which will further reduce the unmet need and improve the maternal and child health outcomes.

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