

Unmet need for contraception among married women (15-49 years) of an urban slum of South Gujarat - A cross-sectional study

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ABSTRACT:

Background: Rising fertility rate and population growth is one of the direct indicators of poor family planning. Unmet need for contraception plays a significant role in fertility control and also health of mother and child by decreasing infant and maternal mortality rate by bringing wanted and planned pregnancy. Fertility pattern is distorted mainly in under developed or vulnerable society like rural areas, urban slums or among migrants or nomads. Therefore, this study is conducted in the urban slum. **Methods:** Community based cross sectional study done in the urban slum of field practice area of the Department of Community Medicine. Sample size estimated as 305 as per the prevalence of unmet need for contraception of married women of reproductive age of 15-49 years and so house to house survey done to obtain it and hence interviewed by predesigned semi-structured questionnaire. Prior ethical and scientific committee approval obtained. PICF and written consent also obtained from participants. Data entry done in excel sheet and analysed using SPSS. **Results:** Proportion of protected couple is 52.13% (159) in which 18(11.3%) women discontinued thus 46.2% (141) whereas proportion of unprotected couple is 47.87% (146) among them 32 (21.91%) women excluded due to pregnancy, infertility and hysterectomy. So, precisely 37.4% (114) women had unmet need for contraception. Among protected women using spacing method were 17(12%) and opted limiting method by 124 (88%) women. Chi-square shows significant association between age, literacy, occupation and number of children for contraception usage. **Conclusion:** Unmet need for contraception is high among young married women of urban slum and also influenced by various socio-demographic characters. This needs policy makers and program managers to address the scenario in a holistic manner by giving more emphasis on the determinants influencing unmet need for contraception.

Keywords: unmet need, married women, family planning, urban slum.

INTRODUCTION:

Women and Child health is always a challenge to public health and medicine world which is the root foundation of our human population without which human life on earth is questionable. Healthy life on earth is brought about by healthy women with good health for which family planning is necessary or even mandatory in coming near future. For which family planning is the structured way of building and way of living and making a family, in turn a healthy and sizeable society and ultimately population controlled and lead to a healthy country. Family planning is not only the mere use of contraception yet it is a way of lifestyle or living considering the good health of mother and child which in turn brings about a planned pregnancy which ultimately bring about negligible morbidity or mortality. Apart from the above view growing population is also another threat to the society to avail basic health care in an equitable and equal manner. Accounting the current

population of our country, India which has overtook China by 1.43 billion. Rapid population growth also serves as a shortage for human basic needs like water, housing, sanitation, clothing, nutritious food, primary health care, etc. to be met by them.

In 1951, India became the first country in the world to launch family planning program to control rising population. (1) India ranks 1st most populous country in the world overriding China with population of 1.4 billion. Current Surat population is 60 lakhs according to census 2011 by Surat municipal corporation. (2) There is also increase in urban population which has been attributed both to natural growth and migration from villages because of employment opportunities, attraction of better living condition and availability of social services as education, health, transport, entertainment, etc. (1) Surat is such an example for high migration as being the Diamond, silk and textile city. Total number of slum pocket in Surat city is 344

according to census 2011. (2) Urban slums usually have clusters of population living in lesser square kilometre area having low socio-economic status along with primitive living conditions, 22 insecurities related to accommodation and employment and diverse cultural factors. All this variable has impact on the fertility pattern of the area.

Operational Research studies support the hypothesis that economic status bears an inverse relationship with fertility. The total number of children born declines with an increase in per capita expenditure of the household. Similarly, education also has inverse association whereas caste and religion have direct impact as e.g. Muslims have higher fertility than Hindus. (1) In last 50 years exceptional intervention has taken place in areas of reproductive health. New and modern contraceptives are available and as a part of social marketing many people started purchasing on their own. There is also another set of population who are unaware or not using contraception due to lack of knowledge like vulnerable section of the community. Currently few data are available in this topic among them.

Unmet need for family planning means when a married women who are able to give birth and want to stop or delay childbearing but not using any method of contraception to prevent pregnancy. (1) The concept of unmet need points to the gap between some women's reproductive intension and their contraceptive behaviour. (3)

The urban field practice area of Department of Community Medicine GMC Surat is situated at Ambedkar Nagar located in South West Zone, Ward no 23. This is under Surat Municipal Corporation (SMC) and known as ward no 23 having population of 1 lakh. Urban health centre situated at Althan, Community Health Centre at Bamroli and New Civil Hospital of Surat are the Primary, Secondary and Tertiary Health Care centres for the Study area. The need for this study in this urban slum of field practice area is that the area is having high number of children showing high fertility, where large number of people are living in small area with poor living condition, education and occupation. So, it would be useful to study various sociodemographic parameters and fertility pattern of eligible couples in this area to serve them better for family Welfare. Thus, the study is planned to be conducted in the urban field practice area of GMCS. It would be useful to assess demographic data and to estimate eligible couples to list them out and to identify who have unmet need. After the study analysis necessary plan can be executed for the benefit of this population in future. Because contraception is one of the good indicators, of the extent to which couples have access to reproductive health services.

The purpose of this study is to strengthen the clinic and field-based services provided at Urban Health clinic (UHC) of GMCS. For example, fulfilling unmet need prevents unintended pregnancy thereby its benefits are like lesser unsafe abortions, healthier mother and

children, reduction of population pressure on environment, economic growth, etc. So, it helps in preventing chain of events in the society. Also, it will provide direction by helping to pinpoint the obstacle in society and weaknesses in services that need to overcome.

Aim:

To study the proportion of unmet need for contraception among study population.

Objectives:

- a) To assess the unmet need for contraception and to assess the proportion of protected couple.
- c) To determine socio-demographic characteristics among protected and unprotected eligible couple.

Methodology:

Study Design:

A community-based **cross-sectional study** was conducted to assess the unmet need among eligible couples.

Sample Size Calculation:

According to the Family Welfare estimates as quoted in **Park's Textbook of Preventive and Social Medicine**, there are approximately **150–180 eligible couples per 1000 population** in India.

In the selected study field area, there were approximately **500 households**, with an estimated population of **2500**. Based on this estimate, the expected number of eligible couples was around **300–400**, all of whom were considered for inclusion in the study.

Additionally, using the **prevalence of unmet need from a previous study (27.3%)**, the sample size was calculated using the **OpenEpi sample size calculator**. With a **95% confidence level**, the minimum required sample size was found to be **305**.

Sampling Technique and Study Site:

The study site was selected using **convenient sampling**. The study was conducted in **Ambedkar Nagar, Althan**, which is the **Urban Field Practice Area of Surat city**. A total of **305 participants** were selected using **purposive sampling**, including **married women aged 15–49 years**.

Initially, a **house-to-house survey** was conducted to collect basic demographic information and the number of eligible couples using a **Google Sheet**. Subsequently, detailed data related to **unmet need** among eligible women were collected using a **separate Google Form**.

Study Population:

Married women aged **15–49 years** residing in the selected study area were included in the study.

Study Duration:

The total duration of the study was **12 months**, which included:

- **8 months** for data collection
- **2 months** for data analysis
- **2 months** for report writing and documentation

Inclusion criteria:

- Eligible couple in which wife is in age group of 15-49 years.
- Participants who accepting written consent.

Exclusion criteria:

- Non available and non-traceable even after 3 home visits.
- Non cooperative couples.

Outcome parameters, primary and secondary:

Primary Outcome:

- 1) Estimated proportion of met and unmet need for contraception among eligible couple and documented the awareness and usage of type of contraception.
- 2) Estimated various socio-demographic determinants in relation to the outcome variable.

Secondary outcome:

- 1) Estimated various fertility indicators like Total fertility rate, Age specific marital rate, Total Marital fertility rate, General Marital Fertility rate.

Assessment tools/ scales:

Pre tested semi structured, self -designed questionnaire used. For pretesting a pilot study was done with the help of study tool in around 10 women and also with experts to validate the tool.

Statistical Analysis Plan:

- a) The data entered in google form & google sheet was analysed using SPSS software.
- b) Descriptive statistics was done. Cross tabulations and P value calculated to detect association using chi-square.

RESULTS:

The study of urban slum of Surat city, Gujarat of 305 eligible women showed the proportion of protected couple i.e. protected couple to be 52.13% (159) among them 18 women who was on temporary method has discontinued. The proportion of women among met need adopting spacing method was 12% (17) and for limiting method 88% (124). Proportion for unmet need is 47.87% (146) among them 32 women excluded due to pregnancy, infertility and hysterectomy. So, precisely 37.4% (114) women has unmet need for contraception. A total of 286 households on interviewing had a total of 1443 population from which 305 eligible married women were obtained for further interview on details of contraception. Which showed sex ratio of 950 females per 1000 males, birth rate for last 1 year (2023-2024) was 17.3 per 1000 population. Basic household data of 286 family showed estimated mean monthly income to be rupees 15,493 per household. In consideration to religion, proportion of Muslim family were 54.3% (784) and Hindu family were 45.7% (659). The urban slum has majority of migrant population in which non-Gujarati was 87.87% and Gujarati was 12.13%.

Estimated fertility indicators:

Calculated general marital fertility rate (GMFR) was 81.96 (India 2020- 108.3) and total marital fertility rate (TMFR) was 3.15 (India 2020 - 5.2) and age specific marital fertility rate (ASMFR) was majority for age group of 20 to 29 years.

Table 1 Distribution of eligible women according to age group and number of live births with calculation of total marital fertility rate n= 305

Sl. No	Age group	No. of female	No. of live birth	Age specific fertility rate per 1000
1	15-19	10	3	300
2	20-24	63	10	158.73
3	25-29	74	10	135.13
4	30-34	54	2	37.04
5	35-39	53	0	0
6	40-44	34	0	0
7	45-49	17	0	0
Total		305	25	630.9
			TMFR	3.15

Bio-socio characteristics of women (n=305):

Mean age of marriage was 18.1 years, mean age of conception was 19.4 years, mean duration between marriage and conception 20.4 months, mean duration between 1st and 2nd child 26.3 months, 2.4 was the

average number of children born to a married woman. 18% of women had birth order more than 3 and less than 3 was 81.9%

Almost 93.11% (284) women have completed lesser or up to secondary level education & only 6.89% (21)

educated beyond secondary level schooling. A majority of women were employed either in semi or skilled work i.e. 85.24% (260) and 14.75% (45) were home-maker.

Knowledge and usage of contraception:

Among 305 married women 98.3% had awareness about contraception and only by 52.13% of women have been using any modes of contraception.

The women users were as majority as 85.53% whereas men users were only 14.47% in terms of temporary method i.e. condom. Not even single man has been found to opt vasectomy from the study area among the 305 eligible women.

In accordance to women users 19.85% were on oral pill, 4.41% on intrauterine device, 5.15% were on injectable, 70.59% underwent permanent method by tubal ligation. The higher proportion of tubal ligation has been seen for the women who have either completed their required family size or they fall in old cohort that is more than 35 years of age.

A majority of 74.84% women availed service from government facility and 25.16% from private facility for any method of contraception.

Significant association has been seen between independent variable like age, literacy, occupation and number of children with the outcome variable for contraception usage. Women who aged less than 35 years using contraception is less when compared with women more than 35 years with p-value < 0.05 (OR:0.259, CI:0.14-0.44). Association for education shows OR:1.93, CI:1.22-3.05 with significant p-value of < 0.05. Women having children more than 2 are more in using contraception than less than or equal to 2 children (CI:0.235, OR:0.14-0.38)

The reason for women for not using contraception were use of natural methods like barrier method or calendar method as reported which was as high as 61 women (41.78%), 15(10.27%) women for reason being social or family belief, 18(12.3%) women were pregnant at that time, 13(8.90%) women had postpartum amenorrhea so had poor acceptance as enquired.

Table 2 Distribution of various parameters of eligible women for contraception usage and non-usage n= 305

Indicators	Need of contraception				Total		Chi square (P value)	OR (CI)
	Met		Unmet					
	n	%	n	%	n	%		
Age								
<34 years	83	41.3	118	58.7	201	65.9	27.74	0.259
>34 years	76	73.1	28	26.9	104	34.1	(0.000)	0.14-0.44
	159		146		305	100		
Education								
<secondary	88	60.7	57	39.3	145	47.5	8.11	1.93
≥secondary	71	44.4	89	55.6	160	52.5	(0.002)	1.22-3.05
	159		146		305	100		
Illiterate	38	65.5	20	34.5	58	19.0	5.14	1.979
Literate	121	48.9	126	51.1	247	81.0	(0.023)	1.09-3.59
	159		146		305	100		
Occupation								
Homemaker	125	48.1	135	51.9	260	85.2	11.61	0.299
Working	34	75.5	11	24.5	45	14.8	(0.000)	0.14-0.61
	159		146		305	100		
Religion								
Hindu	74	52.5	67	47.5	141	46.2	0.012	1.027
Muslim	85	51.8	79	48.1	164	53.8	(0.454)	0.65-1.61
	159		146		305	100		
No. of. child								
≤ 2	65	40.9	94	59.1	159	52.1	35.44	0.235
>2	109	74.7	37	25.3	146	47.9	(0.000)	0.14-0.38
						100		

**Figure 1 Summary of met and unmet need of contraception of eligible women in study area
n= 305**

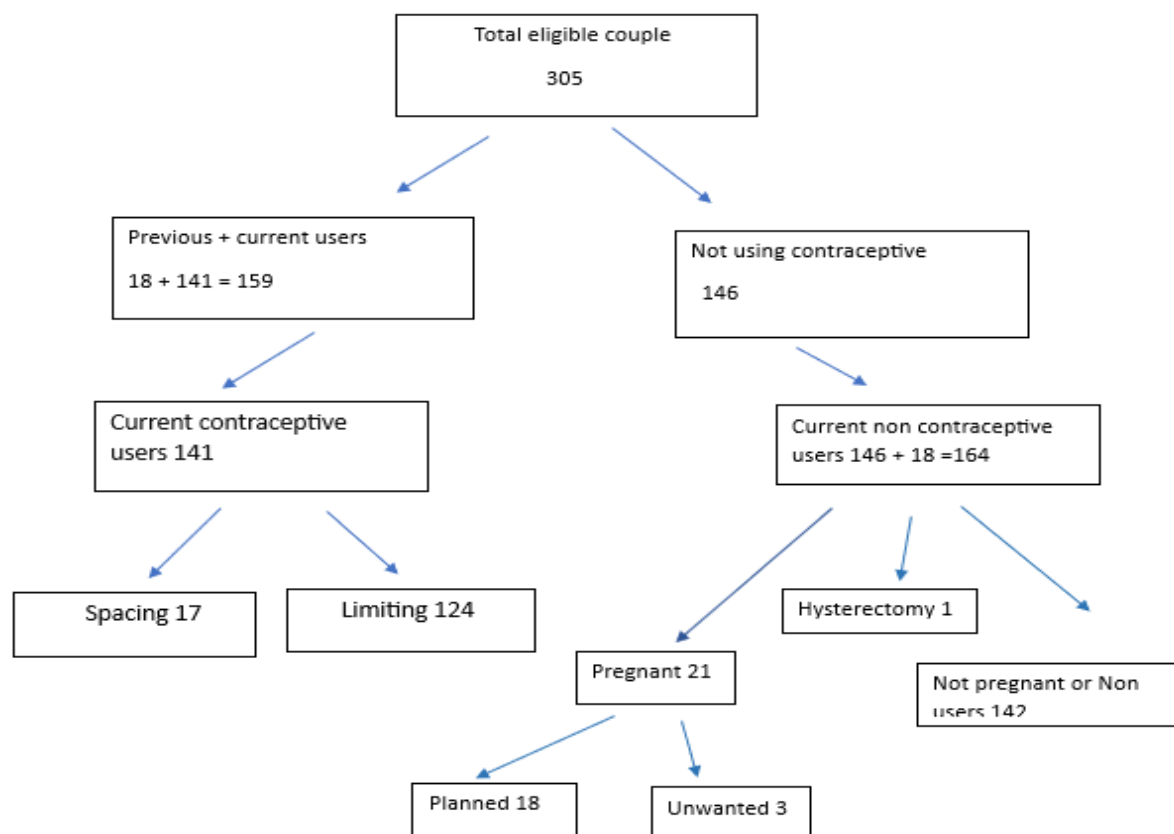
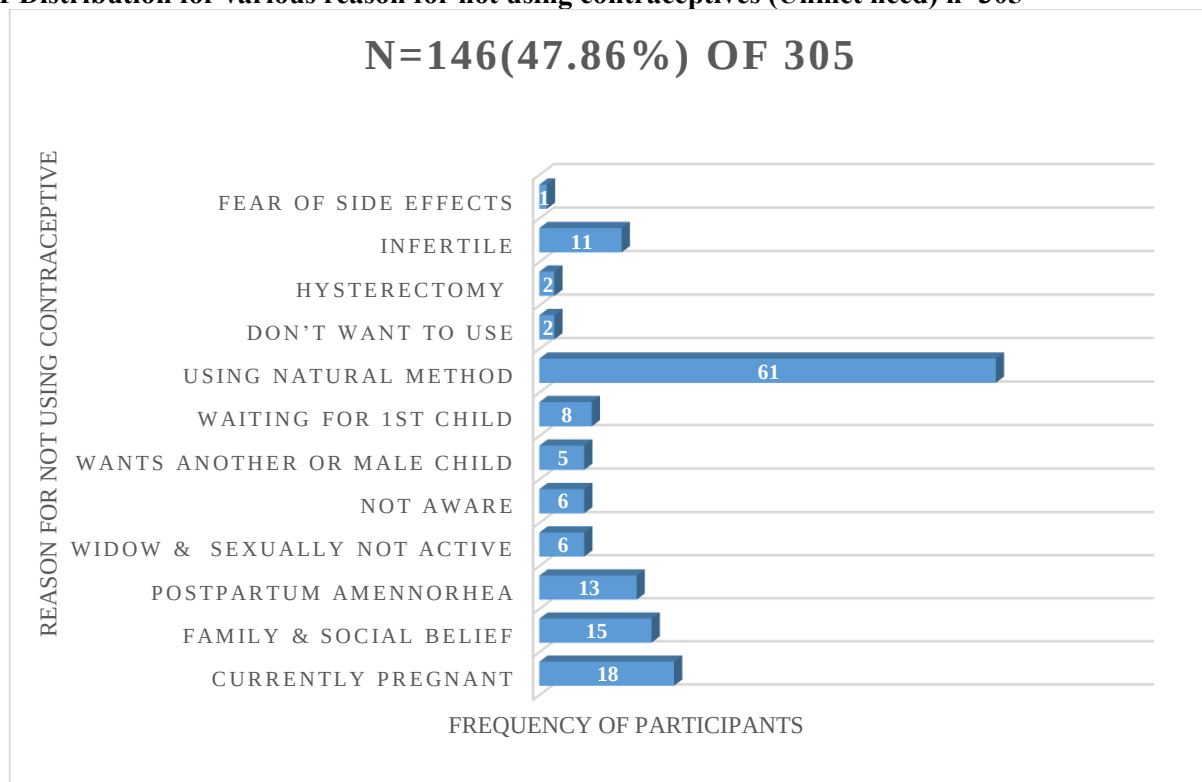


Chart 1 Distribution for various reason for not using contraceptives (Unmet need) n=305



DISCUSSION:

The average family size of the study area is 5. Whereas Indian average household size is 4.4 as of 2021(1). This character is influenced by various factors like number of children, elderly population, marriage, migration, economic condition, cost of living, etc. The main factors seen here are number of children per family, migration as a whole family, dependent elderly population as well, poor awareness education over family size and economic condition.

The study area has potential eligible couple of 305 in the age group of 15- 49 years which is a total of 610 adults with 730 children of those 381 boys and 349 girls accounting to 1340 out of 1443 (92%) total population of that area. This proportion itself shows high fertile base of migrant society (Total fertility rate more than 2). NFHS-5 data shows Total fertility rate of Gujarat is 1.9(2).

In the sample population 58(19%) women are illiterate and 247 (81%) women are literate which is 5% lesser than state level percentage (86.8%). 45 out of 58 illiterate women are over the age of 35 years may be considered as old cohort. This explanation is vital that young current women population are having adequate basic education than compared to 2-decade old cohort population. This is also important for the women to be the decision maker of the family that helps in family planning.

NFHS 5 shows 65% of couples are protected by some method of contraception(2). This when compared with sample population is lesser because no men from study site have adopted permanent male sterilisation method and only 23 (7.5%) men out of 305 couple reported to be using condom which is less reliable method of protection among all other contraceptives especially among such communities. The effectiveness of condom is only 82% if not used correctly i.e. 18 in 100 women will get pregnant if couple use condom as the only source of birth control for a year (3).

Even Roy Jacob stein et al, study analysis from 84 low-and middle-income countries out of which 7 reported to have vasectomy prevalence as 2%. This when compared with the study data is nil. Vasectomy use is becoming low and negligible nowadays due to low demand and minimal program priority(4)(5).

On the other hand, 50% people are not using any contraceptive that is due to various reasons like not willing to use any method of contraceptive without any reason, social and cultural belief, newly married, planning for another child, divorced, case of hysterectomy, infertile women, fear of side effects, desire of more children, etc (chart 14). Even 61 (20%) women reported they want to use natural method of contraception giving various reasons to avail modern contraceptive sources.

A systematic review also enlist reasons for sub optimal usage of contraceptives among eligible women from Nigeria points out more than above mentioned reasons, which also includes poor education, partner

disapproval, domestic violence, social embarrassment to avail depot, etc.(6)

A total of 159 (52.13%) were using contraceptives both old and current users. When in terms of 141(46.2%) current users of contraceptive 17(12%) have used spacing and 124(87%) have used limiting method. This is met need among protected women. 18 women were previously using spacing method of contraception gave up currently due to various reason like need of another child, either 3rd child, etc.

Among 146 (47.87%) non users 32 women were excluded due to current pregnancy, infertility and hysterectomy. Thus remaining 114 are in zone of unmet need for contraception. Considering age of 15 to 35 years that is young cohort need spacing method that accounts for 98 (86%) women and among old cohort of 36 to 49 years old women 16(14%) didn't not opt for permanent method of contraception. Thus 114 (37.4%) women out of 305 are in need of unmet need for contraception excluding various causes.

Total unmet need is 10.7% from NFHS 5 data(2). Similarly a study from Tamil Nadu shows 39% of unmet need for contraception(7). K. Yadav, et al study from urban slum of Uttar Pradesh shows 55.3% of unmet need for family planning(8). Shukla, M., et. al., states in urban slums of Lucknow unmet need is as high as 62.5%. When comparing with these studies Surat slum stays midway between the slums of Tamil Nadu and Uttar Pradesh emphasizing the need for policy improvement considering all above-mentioned factors and reason for increased prevalence of unmet need of 37.4% precisely and grossly 47.9%. Unmet need from a study from South West Ethiopia by Tesfaye Solomon, et, al. shows 26.1% prevalence was attributed to multiparity, husband attitude disapproval, lack of counselling, poor IEC via radio or television as reason in their setting(9). This in our study has less implication as they are we aware and even good motivation and counselling with IEC available via Government initiative in our country relatively.

As mentioned in textbook of Park the couple protection rate is 60% this when compared with the study results shows only 52.13% which is approximately 7% lesser (10). Similarly, reference from National Family Welfare Programme highlights that from test check records of states Gujarat is one state out of 4 which had couple protection rate between 49 to 59 percent(5). But for the study area this is relatively good proportion of couple protection because it has equally more predominant younger couples who are in need of 1st child or another child. Couples covering 52% is also replica that they are accessing the services and this is within the acceptable range.

Calculated General marital fertility rate is 81.96 but the National value for the year 2020 is 108.3 which is higher than the study value(10). The lesser the fertility rate can be attributed either they are well protected by any means of contraception or account of newly married and pregnant women who add on live birth in short future as

not considered in rate may arbitrarily may have lesser impact on the rate. This may also be considered as less no of live births when compared with national value. This may be due to relatively of better education, awareness and also due to adopting small family norms by certain family members as compared with old cohort people who have violated 2 family norms previously even that was noted as elderly couples having more than 5 children.

Total marital fertility rate is 3.14 of study site and National value is 5.2 for 2020. The value from study area is much lesser value than National value which means the couples are more protected as compared with national average. This result is ahead of achievable target. Here Total Fertility Rate (TFR) is not considered or not calculated (the target TFR should be 2.1 as per National family welfare programme), since the study participants included were married women of reproductive age group and whereas unmarried sexually active women are not considered(5).

Overall, the married women from the study site are moreover adequately protected by nearly more than 50% and newly emerging couples are well aware of the contraceptive methods, yet it requires timely follow up by the community health workers (AWW, ASHA, FHW) for motivating and availing services for the married couples in need at the right time by the suitable method of their choice. Thus, all are aware of contraception and its availability and even good and remote accessibility and also utilization by more than half of study population which shows their very good knowledge of contraception, attitude and practice in urban slum setting. On the other hand other half of eligible couple still show hesitancy in availing service due to various factors like fear of side effects, social and cultural belief, poor adopting practice, wrong misconception over modern contraceptives, etc(11).

CONCLUSION:

Urban slums are the main pockets that requires high intervention needing the program managers to act intensely for critical appraisal and for addressing the requirement in a holistic manner. As an approach, accounting to the 37% of unmet need means 101 women out of 305 eligible women needs contraceptive, so on an average, suppose 5 to 6 women are contacted by 2 ASHA worker biweekly for BCC by motivation and encouragement of use of contraception, by 2 to 3 months target can be achieved on an operational aspect. For enhancing interpersonal communication as an awareness education and motivation about reproductive health and contraception, a kit enclosed with charts, pictures, safe period wheel chart, contraceptive tablets, implants, copper T can all be showed and discussed by field workers with the eligible women. Thus, active Involvement of the health workers and ASHA with friendly approach in these topics as these are less discussed naturally. Since the act of communication matters.

Additionally, for working women contact by ASHA workers can be facilitated after work hours. Women with more than 2 children can be given extra motivation for behaviour change to opt permanent method. Extra emphasis can be given for newer and long-lasting contraceptive methods e.g. LNG implants. Special concern for migrant population about encouragement and for accepting contraception to keep them in pace of the family planning norms as they are constantly changing.

Addressing strong cultural belief in a managerial and sensible way among certain communities or caste of Hindu and Muslim religion through concern head of the society also helps in empowerment of that community women by fulfilling the demand of family planning services independently and also helps in bringing better health outcome of the society. Gender difference is still prevalent among society for adopting sterilization method for which attractive norms can be brought for males to encourage vasectomy which was once forced led to failure.

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Availability of data and materials:

The datasets generated and / or analysed during the current study are not publicly available due to the topic of the study and concerns regarding confidentiality of the data but are available from the corresponding author on reasonable request.

Ethics approval and consent to participate:

The Institutional Ethics Committee approval obtained. All participants received an explanation of the research aims and of negligible risk by participating in the interviews, and all participants signed a written informed consent form. Written consent to participate was obtained from the parents / guardians of the minors (< 18 years of age) included in the study.

Consent for publication:

Not Applicable.

Competing interests:

The authors declare that they have no competing interests.

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