

Research Article

A study to estimate the prevalence of “unmet need for contraception” in the rural areas: a cross-sectional study

Dr J. Pavan kumari^{1*}, Dr B.Chakri Sarvani², Dr. T Arun Sagar³, Dr Jyothi Conjeevaram⁴

¹Assistant Professor, Department of Community Medicine, Sri Venkateswara Medical College, Tirupati, Andhra Pradesh.

²Assistant professor, Department of pathology, Government medical College, Markapur. Andhra Pradesh.

³Assistant professor, Department of Respiratory medicine, Santhiram Medical College, Nandyal, Andhra Pradesh.

⁴Professor, Dept of Community Medicine, Narayana Medical College, Nellore, Andhra Pradesh.

*Corresponding Author: Dr J. Pavan kumari. Email: 2k31983@gmail.com

Received: 05.09.23, Revised: 20.10.23, Accepted: 16.11.23

ABSTRACT

Background: Unmet need is especially high among groups such as adolescents, migrant, urban slum dwellers, refugees, women in the postpartum period Unmet need can be a powerful concept for family planning. This study aimed to estimate the prevalence of “unmet need for contraception and to identify the reasons for unmet need of contraception in the rural areas.

Methods: A Descriptive, cross-sectional study was conducted in rural area of Venkatachalam mandal of Nellore district, Andhra Pradesh, India for a period of one year. The study population include all married women between 15-49 years residing in Venkatachalam mandal Nellore district. The questionnaire includes socio demographic characteristics of the study subjects, their choices for contraception, reasons for not using contraception and reasons for not opting for sterilization.

Results: In the present study, out of 450 study subjects, majority of the women (83.6%) belonged to the age group of 21-40 years of age which is the most crucial in the reproductive span. Among the study subjects (n=334), the unmet need for spacing is 10% (34). According to the study subjects (n=333), unmet need for limiting is 7. 8% and one woman chose other methods because of health problems.

Conclusions: The majority of women belonged to the reproductive age group of 21-40 years. Despite this, a notable proportion had an unmet need for family planning, with 10% for spacing and 7.8% for limiting. This indicates gaps in contraceptive awareness, accessibility, or acceptance. Strengthening family planning counseling and services is essential to reduce unmet needs.

Keywords: Unmet Needs For Contraception, Rural Areas, Family Planning, Married Women.

INTRODUCTION

With a population of 1,364 million in the year 2014, India is the second most populous country in the world, next only to China. With only 2.4 percent of the world's land area, India supports about 17.5 percent of the world's population. India's population has been steadily increasing since 1921. ¹

An expert committee (1971) of the World Health Organization defined family planning as “a way of thinking and living that is adopted voluntarily, upon the basis of knowledge, attitudes and responsible decisions by individuals and couples in order to promote the health & welfare of the family group and thus contribute effectively to the social development of a country.”^{1,2}

Even after 65 years of implementing the National family planning programme there are still 222 million women who have an unmet

need for modern contraception in India, meaning they don't want to become pregnant but are not using any method of contraception.² Women with unmet need are those who are fecund and sexually active but are not using any method of contraception, and not wanting any more children or wanting to delay the next child.² That is, they don't want more children or they want to postpone their next pregnancy by at least two years, yet they are not using contraceptives.³

Unmet need is especially high among groups such as adolescents, migrant, urban slum dwellers, refugees, women in the postpartum period Unmet need can be a powerful concept for family planning. It poses a challenge to family planning program – to reach and serve millions of women whose reproductive attitude resembles those of contraceptive users– but

who are, for some reason or combination of reasons, not using contraceptives.¹

Reasons for unmet need for family planning include fear of side effects, perceived and real, Inadequate knowledge about methods, Weak health systems that impede access to contraceptive methods, Laws that require a husband's consent to seek family planning services, Reliance on breast feeding to prevent another pregnancy, Opposition to family planning by a partner or family members and In-frequent sexual inter course.³

According to the National Family Health Survey-3, the unmet need for family planning is highest (27.1%) among women below 20 years of age and is almost entirely for spacing the births rather than for limiting the births. It is also relatively high for women in age group 20 to 24 years (21.1%) with about 75 percent of the need being for spacing the births. The unmet needs for contraception among women aged 30 years and above are mostly for limiting the births which is comparatively smaller when compare to that of birth spacing. The unmet need for family planning is higher in rural areas than in urban areas. It also varies by women's education and religion.¹

With this background this study aimed to estimate the prevalence of “unmet need for contraception and to identify the reasons for unmet need of contraception in the rural field practice area of Narayana Medical College, Venkatachalam, Nellore district, A.P.

MATERIAL AND METHODS

A Descriptive, cross-sectional study was conducted in rural area of Venkatachalam mandal of Nellore district, Andhra Pradesh, India for a period of one year. The study population include all married women between 15-49 years residing in Venkatachalam mandal Nellore district. A sample of 450 women aged 15 - 49 years and above who gave informed consent were selected from 10 villages which are selected randomly among 25 villages of Venkatachalam mandal of Nellore district, A.P. All the married women aged between 15-49 years, who were present at the time of visit and who were willing to participate were included in the study. Women who were absent during house visit and those who didn't give consent for interview.

Sample size is calculated from the previous studies data on contraceptive practices among rural population (NFHS-IV Andhra Pradesh Data) by using appropriate sample size calculation method. Sample size was calculated

by using the following formula. $N = \frac{Z^2pq}{L^2}$ (Where N - Sample size, Z - % point corresponding to significant level of 5% = 2, P - Prevalence of unmet need for contraception in rural area of A.P. = 4%⁴, q - 100-p L - Allowable error (absolute precision). With 10% non response rate = 422 rounded off to 450.

METHODOLOGY

Collection of data: There are 25 villages in Venkatachalam Mandal and from these 10 villages were selected by simple random sampling using lottery method. It was decided to study equal number of subjects from each selected village. Therefore 45 subjects were selected from each village to get the required sample size. In each village the sample was chosen by systematic random sampling, where in the first house was selected randomly. Whenever a house was locked the next house was visited (right hand rule was followed). Women between 15 – 49 years and who were willing to give consent were included into the study. In each house only one woman was considered for this study. The houses were visited and interviewed till 45 study subjects are obtained in each village.

The required data was collected from the study subjects by face-to-face interview using a pre-designed, pre-tested questionnaire. The questionnaire includes socio demographic characteristics of the study subjects, their choices for contraception, reasons for not using contraception and reasons for not opting for sterilization. The data was entered into Microsoft excel sheet. The results were summarized and presented using tables and graphs.

Ethical clearance: Ethical clearance was obtained from the Institutional Ethical Committee of Narayana Medical College, Nellore.

Confidentiality was ensured/guaranteed to all individuals who participated in the study. Variables of interest and operational definitions

Socio-demographic variables such as age, Education, Occupation, Type of family, Socio-economic status (Modified BG prasad classification) were collected

Un-met need is defined as Women with unmet need are those who are fecund and sexually active but are not using any method of contraception, and not wanting any more children or wanting to delay the next child.²

The data was entered in ms excel and analyzed using SPSS version 22.0. Percentages and chi-

square were calculated. A p-value of <0.05 was taken as statistically significant.

RESULTS

Table 1: Distribution of socio-demographic factors

Socio-demographic variables		Frequency	Percentage
Age group (Years)	<20	26	5.8
	21-30	242	53.8
	31-40	134	29.8
	41-50	48	10.6
Religion	Hindu	396	88
	Muslim	41	9.1
	Christian	13	2.9
Caste	OC	48	10.7
	BC	266	59.1
	SV	83	18.4
	ST	53	11.8
Type of Family	Joint	74	16.4
	Nuclear	248	55.1
	3-generation	128	28.4
Socio-economic status (Modified BG Prasad classification)	1	204	45.3
	2	161	35.8
	3	76	16.9
	4	8	1.8
	5	1	0.2
Education of wife	Illiterate	109	24.2
	Primary	107	23.7
	Middle School	46	10.2
	High school	115	25.6
	Intermediate/diploma	45	10
	Graduate	25	5.6
	PG/Professional	3	0.7
Occupation of the wife	Unemployed	276	61.3
	Unskilled	95	21.1
	Semi Skilled	18	4
	Skilled	6	1.3
	Clerk/shop/farmer	41	9.1
	Semi Professional	4	0.9
	Professional	10	2.2
Education of Husband	Illiterate	145	32.2
	Primary	65	14.4
	Middle School	30	6.7
	High school	109	24.3
	Intermediate/diploma	33	7.3
	Graduate	60	13.3
	PG/Professional	8	1.8
Occupation of the Husband	Unemployed	13	2.9
	Unskilled	214	47.5
	Semi Skilled	52	11.6
	Skilled	9	2.0
	Clerk/shop/farmer	130	28.9
	Semi Professional	14	3.1
	Professional	18	4

In the present study, out of 450 study subjects, majority of the women (83.6%) belonged to the age group of 21-40 years of age which is the

most crucial in the reproductive span. Among the study subjects, majority were Hindus (88%) followed by Muslims (9.1%) and Christians

(2.9%) respectively. In the present study 59.1% of the respondents belong to backward caste. 55.1% belong to Nuclear family. According to Modified BG Prasad classification, out of 450 women 45.3% belong to upper class and 0.2% belongs to lower class. Education wise distribution of the study subjects shows that 25.6% (115) of women studied up to high school, 24.2% (109) of the women were

illiterate and 5.6%(25) completed graduation. Most of the study subjects are un-employed (61.3%) and 0.9% belong to semi professional. Majority of the husbands of women, 32.2 % (145) are illiterates followed by 24.3% (109) completed high school. Majority of the husbands of women, are un skilled workers 47.5% (214). Professional workers 4% (18) and 2% (9) are skilled workers. (Table 1)

Table 2: Distribution according to age at marriage and age at 1st delivery and number of children

Distribution of women according to the age at marriage and age at 1 st delivery		Frequency	Percentage
Age at marriage	<18 years	188	41.8
	18-25 years	259	57.6
	>25 years	3	0.6
Age at 1 st delivery (n=397)	<20 years	208	52.4
	20-30 years	189	47.6
Distribution of all women according to their total no. of living children and no. of children they want and the no. of living sons			
No. of living children (n=397)	1	70	17.6
	2	265	66.8
	>2	62	13.7
No. of children they want	0	1	0.2
	1	17	3.8
	2	400	88.9
	3	30	6.7
	4	2	0.4
No. of living sons (n=305)	1	206	67.5
	2	92	30.2
	>2	7	2.3

Majority of the women (57.6%) were married within the age group of 18-25 years and 52.4% had 1st child within 20 years of age. Among the study subjects 265 (66.8%) have two children

and 70(17.6%) women have only one child. 88.9% (400) of the women expressed to have 2 children and majority (67.5%) of the study subjects have only one son. (Table 2)

Table 3: Distribution according to various unmet needs of contraception

Distribution of women according to the practice of contraception immediately after marriage and reasons for not using contraception		Frequency	Percentage
Did you wish to have child immediately after marriage (n=450)	Yes	428	95.1
	No	22	4.9
If no did you practice any family planning methods (n=22)	Yes	10	45.5
	No	12	54.5
Method (n=10)	Abstinence	6	60
	OC Pills	2	20
	IUCD	2	20
Duration (n=4)	<1 year	2	20
	1-2 years	1	10
	3 years	1	10

Unmet need (n=450)	Yes No	13 437	2.9 97.1
Reason for not used (n=12)	Not aware Side effects Separated from husband Mother-in-law not accepted	7 2 1 2	58.3 16.7 8.3 16.7
Distribution of women according to the practice of contraception for successive children			
Women who wish to have next child immediately (n=338)	Yes No	291 47	86.1 13.9
if no, women practiced any contraceptive methods (n=47)	Yes No	13 34	27.7 72.3
Methods (n=13)	Abstinence OC Pills IUCD	9 3 1	69.2 23.1 7.7
Duration (n=13)	<1 year 1-2 years 3 years	6 6 1	46.2 46.2 7.6
Unmet need for spacing	Yes No	34 304	10 90
Unmet need for limiting	Yes No	26 307	7.8 92.2

Among the study subjects 4.9%(22) want to postpone their 1st pregnancy immediately after marriage and of these women 45.5%(10) practiced contraception and the chosen methods are abstinence-60%(6), OC pills-20%(2), IUCD -20%(2). Of these women 10% used contraception for 3 years, 20% used contraception for less than 1year. Observed unmet need is 2.9% and the reasons for not practicing contraception are as follows 58.3% of the women were not aware of contraception, fear of side effects 16.7%, separated from husband 8.3%, mother in-law not accepted 16.7%.

Among the study subjects(n=338) 13.9%(47) want to post pone their next pregnancy and of these women 27.7%(13) practiced contraception and the chosen methods are abstinence-69.2%(9), OC pills- 23.1%(3), IUCD -7.7%(1), 46.2% of the study population practice contraception for a period of 1-2 years. Among the study subjects (n=334), the unmet need for spacing is 10% (34). According to the study subjects (n=333), unmet need for limiting is 7. 8% and one woman chose other methods because of health problems. (Table 3)

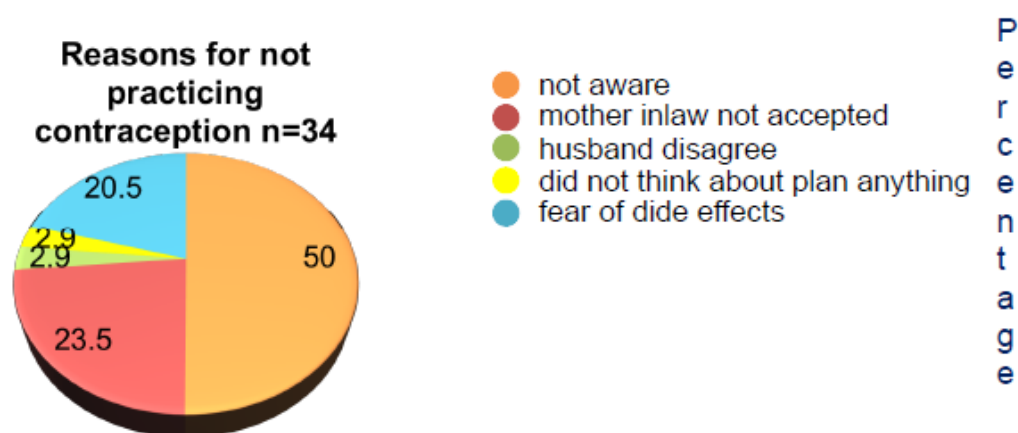
Table 4: Distribution of women according to the practice of sterilization

Distribution of women according to the practice of sterilization		Frequency	Percentage
Did you complete your family (n=396)	Yes No	333 63	84 16
If yes underwent sterilization or other family planning methods (n=333)	Yes No	308 25	92.5 7.5
if yes, Method (308)	Tubectomy Other (IUCD)	307 1	99.7 0.3

Among the study subjects (n=396), 84 % (333) completed their family. Among these women 92.5% underwent sterilization. 99.7% (307)

underwent tubectomy and 0.3 % (1) chosen IUCD for 3 years duration. (Table 4)

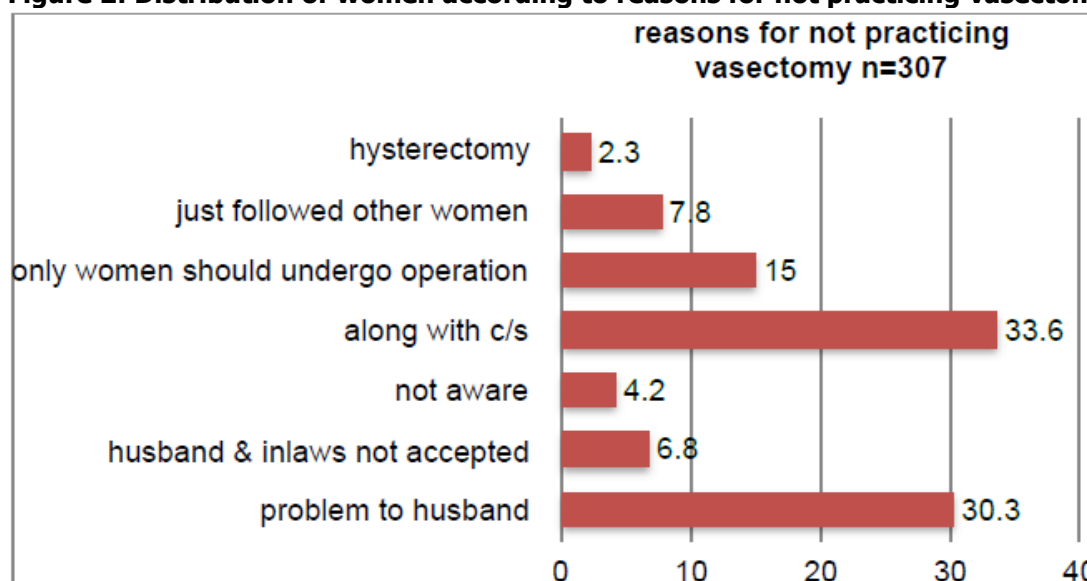
Figure 1: Distribution of women according to reasons for not practicing contraception



Among the study subjects (n=34), 50% of the women were not aware of contraception and

23.5% of the women not used contraception as mother-in-law not accepted. (Figure 1)

Figure 2: Distribution of women according to reasons for not practicing vasectomy



Among the women who underwent tubectomy 30.3% believe that vasectomy causes problem to husband and 33.6% underwent tubectomy

along with LSCS, 15% believe that sterilization operation is only for women. (Figure 2)

Table 5: unmet need for contraception vs. demographic factors (before 1st child)

Factors	Chi-Square	P value
Age groups	1.667	0.644
Religion	1.825	0.401
Caste	2.975	0.395
Education (Wife)	7.575	0.271
Occupation (Wife)	2.862	0.826
Type of family	0.749	0.688
SES	2.848	0.584

There is no significant statistical difference between unmet need (before 1st child) in relation to age group, religion, caste, women's education, occupation, type of family and socio-economic status. (Table 5)

DISCUSSION

In the present study, out of 450 study subjects, 5.8% were less than 20 years, 10.7% were in 41-50 years of age and majority of the women (83.5%) belonged to the age group of 21-40 years of age which is the most crucial in the reproductive span. In a study conducted by Pushpa⁵ et al (2011) conducted at Yadwad, in Dharwad district of Karnataka majority of women (64.65%) were in 15-34 years age group. In a study conducted by Amit Kaushil⁶ et al (2017) in Saifai, Etawah, Uttar Pradesh majority (44.7%) of the women were in the group of 26-35 years.

In the present study, 41.8% of the study subjects married under 18 years of age, majority (57.6%) of the women were married within the age group of 18-25 years and 0.6% of the women married above the age of 25 years. 52.4% had 1st child within 20 years of age and 47.6% of the women delivered in 20 to 30 years of age. In a study by Nabanita Chakraborty⁷ et al (2016) conducted in Daspara village, West Bengal, among 121 married women showed that the age of marriage of majority of women (41.3%) was 20-24 years. Another study by Rajiv Kumar Gupta⁸ et al (2013) done in a rural area of Jammu Dt. revealed that out of 157 females an overwhelming 90.45% were above 18 years of age at the time of marriage. A study conducted by Vasudevan k.⁹ et al (2016) in the urban area of Puducherry the mean age at marriage and at first child was 21.62 ± 2.64 and 23.10 ± 2.73 years respectively in a sample size of 245.

Among the study subjects 265, (68.8%) have two children and 17.6% women have only one child and 15.6% of the women have more than 2 children. 88.9% (400) of the women expressed to have 2 children, 3.8% want only one child, 6.7% of the study subjects want 3 children, 0.4% of the women want 4 children, 0.2% wanted no children. 67.5% of the study subjects have only one son, 30.1% of the study subjects have 2 sons and 2.3% of the women have more than 2 sons. In a study Mukta Agarwal¹⁰ et al (2017) conducted in a tertiary medical college hospital, Bihar, out of 300 study subjects 54% of the women expressed that their expected family size was 2 children prior

to the marriage, however only 20% of them would achieve their dream of 2 children and among the rest, 52% of them had 3 children and 28% had ≥ 4 children. Another study by Mohammad Motlaq¹¹ et al done in 6 large Iranian cities and 2 small cities showed that 31.7% had 2 living children. The mean number of living and desired children was 2.1 ± 1.6 and 2.4 ± 1.3 respectively from a sample size of 2120 married women.

Among the study subjects, 95.1% wanted a child immediately after marriage 4.9% wanted to postpone their 1st pregnancy and of these women 54.5% did not practice any contraception and 45.5% practiced contraception and the chosen methods are abstinence 60%, OC pills- 20% & IUCD -20%.

Of these women 10% used contraception for 3 years, 10% for 1-2 years, 20% used contraception for less than 1 year. Observed unmet need is 2.9% and 58.3% of the women were not aware of contraception. In a study conducted by B.K. Patro¹² et al (2005) in South Delhi found that out 460 study subjects only less than 2% of the women used contraceptive methods prior to child birth for postponing their first pregnancy, equal proportions of women used condoms and oral pills. In a study carried out by Jyothi Conjeevaram⁴ et al (2017) in urban health training center of Narayana medical college, Nellore it was found that only about 6% of the study subjects opted for contraception immediately after marriage and among them 70% preferred OC pills in a sample size of 170 married women.

Among the study subjects (n=338) 86.1% wanted to get successive pregnancy 13.9% want to postpone their pregnancy and of these women 72.3% of women not practiced any contraceptive methods and 27.7% practiced contraception and the chosen methods are abstinence, 69.2%(9), OC pills, 23.1%(3), IUCD, 7.7%(1). The unmet need for spacing is 10%(34) and the reasons for not practicing contraception are as follows 50% of the women were not aware of contraception, mother in-law not accepted 23.5%, husband disagree 2.9%, did not think about plan anything 2.9%, fear of side effects 20.5%. A study by Jyothi Conjeevaram⁴ et al (2017) in urban health training center of Narayana medical college, Nellore found that among 170 study subjects, only 21.3% adopted spacing methods between successive pregnancies and among them 63% said they opted for IUD. 52% wanted to complete family soon, 29% did not have idea

and 4% cited elders pressure for not practicing spacing methods. Another study by Anil A.Patel¹³ et al (2015) done in rural area of Tamilnadu among 166 study subjects 65.06% opted for spacing methods and among them condoms was the most accepted method (28.92%) followed by OC pills (18.07%), IUD (12.65%) and Natural method 4.82% and Injectables 0.6%. Incomplete family was most common reason for not practicing contraception (34.33%), followed by pressure from family members was (18.6%) and unaware of availability of facilities (15.67%).

Among the study subjects who underwent tubectomy (99.7%), 30.3% believe that vasectomy causes problem to husband and 33.6% underwent tubectomy along with LSCS, 15% believe that sterilization operation is for women, not aware of contraception (4.2%), husband and mother in-law not accepted (6.8), followed other women (7.85), underwent tubectomy along with hysterectomy (2.3). A study by HajiraSaba¹⁴ et al (2014) conducted in an urban area of Bangalore noticed that 71.59% had undergone tubectomy and none were found who had adopted vasectomy as a contraceptive method in the study population. Reasons for not using contraception for 56.5% of study subjects was desire for more children, 20.2% as need not felt, 10.5% as against religion and misconception about contraception. 92.2% had negative opinion towards male sterilization, 57.4% gave reason for negative opinion as weakness will develop in males following male sterilization.

There is significant statistical difference between unmet need for spacing in relation to age groups in the present study. In a study by Nirankar singh¹⁵ et al (2009) conducted in Patiala Dt. of Punjab state showed that out of 1123 women interviewed there is a significant statistical association between un-met need and women age. Another study by Sahina Begum¹⁶ et al (2014) done in urban slum communities, Mumbai showed that there is a significant statistical association between un-met need in relation to age of the women.

In the present study there is no significant statistical difference between unmet need in relation to religion, caste, occupation of husband. A study Beena H Patel¹⁷ et al (2014) done in western part of India also found that there is no statistical significant difference between un-met need and religion. Another study by Amit Kaushik⁶ et al (2017) done in a rural area of Etawah showed that there is no

significant statistical association between unmet need and caste.

Health education to improve the awareness regarding the availability of various contraceptive methods, their side effects, should be increased so that the families can choose the method of contraception which is appropriate to them. Counseling regarding family planning, particularly spacing methods should start right from ante-natal visits so that they will be well prepared to accept them. Create awareness regarding vasectomy, encourage the male participation and give counseling to the family members.

REFERENCES

1. Park K. Demography and family planning. Text book of Preventive and Social Medicine. 23rd Edition: Jabalpur; M/s Banarsidas Bhanot Publishers; 2015. P. 481-516
2. World Health Organisation. Reproductive health topics. Available from http://www.who.int/reproductivehealth/topics/family_planning/unmet_need_fp/en/ (last accessed on 16/8/17)
3. Kishore.J, National Health programmes of India, 12th edition, P214-215.
4. Jyothi Conjeevaram, Sasikala P, Chandrasekhar V, Kumar C, Bhaskar S, A KAP Study on Family Planning Practices Among Married Women Attending Urban Health Training Centre, Narayana Medical College, Nellore (A.P). National Journal of Research in Community Medicine. 2017;6(2):158-162.
5. Sujata K. Murarkar, S. G. Soundale and R.N. Lakade Study of contraceptive practices and reasons for not accepting contraceptives in rural India: Chanai village as a case study. Indian Journal of Science and Technology. 2011; 4 (8): 915-916.
6. B.K. Patro, S. Kant, N. Baridalyne & A.K. Goswam Contraceptive practice among married women in a resettlement colony of delhi. Health and population-perspectives and issues. 2005; 28(1): 9-16.
7. R. Vishnu Prasad, J. Venkatachalam, Zile Singh Unmet Needs of Family Planning Among Women: A Cross-Sectional Study in a Rural Area of Kanchipuram District, Tamil Nadu, South India. The Journal of Obstetrics and Gynecology of India. 2016; 66(S1):S488-S493.

8. Rajiv Kumar Gupta, Aruna Kumari Verma, Tajali N Shora. Contraceptive Prevalence, Attitude and Choice among Women of Reproductive Age Group in a Rural Area of Jammu, India. *Public Health Research* 2013;3(4): 92-97
9. Kaushik A, Kiran K, Jain PK, Shukla SK, Chandra A, Yadav R. Prevalence of Unmet Need for Family Planning and Its Sociodemographic Co-Relates in a Rural Area of Etawah. *Natl J Community Med.* 2017;8(04):198-202.
10. Mukta Agarwal, Sutapan Samanta, Divendu Bhusan, Monika Anant. Assessing knowledge, attitude, and practice of contraception: a cross-sectional study among patients in a semi-urban tertiary hospital. *International Journal of Reproduction, Contraception, Obstetrics and Gynecology* Agarwal M et al. *Int J Reprod Contracept Obstet Gynecol.* 2017; 6(2):720-724.
11. Mohammad E. Motlaq, Mohammad Eslami, Mahdieh Yazdanpanah, Nouzar Nakhaee. Contraceptive use and unmet need for family planning in Iran *International Journal of Gynecology & Obstetrics.* 2013;121 (2):157-161.
12. S. P. Pushpa, R. Venkatesh and M. S. Shivaswamy. Study of fertility pattern and contraceptive practices in a rural area - A cross-sectional study. *Indian Journal of Science and Technology.* 2011;4(4): 429-431.
13. Prateek SS, Saurabh RS. Contraceptive practices adopted by women attending an urban health centre. *Afr Health Sci.* 2012 Dec;12(4):416-21.
14. 61. Beena H Patel, Kapil M Gandha, Hetal T Koringa, Jitesh P Mehta, Dipesh V Parmar, Sudha B Yadav A community based cross-sectional study to assess the unmet need of family planning in urban slums and its determinants in western part of India *National Journal of Medical Research.* 2014(1):1-9.
15. Nirankar Singh, Gagandeep Kaur and Jasdeep Singh, The use of contraceptives and unmet need for family planning in rural area of Patiala District. *The Journal of Family Welfare.* 2015;27(2):230-4
16. P.V.Srinivasa Kumar, Padmaja Pujari. Prevalence of unmet need for contraception among reproductive age group of married women in district hospital, Ananthapuramu. *Int J Res Health Sci.* 2014: 2(1):118-25.
17. Nisha Ram Relwani, Ajeet V Saoji, Meenal Kulkarni, Nandkishore Kasturwar, Ranjana Zade, Rishikesh Wadke. Revealing unmet need for contraception among married women in an urban slum of Nagpur. *International Journal of Medical Science and Public Health.* 2015;4(8):1137-40.