

Original article:

Assessment of knowledge and practice of contraceptives among women in reproductive age attending out patient department at a sub-urban centre in Pondicherry, India

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Abstract :

Introduction: The use of contraceptive has been recognised as a key element in reducing fertility and control of population, which in turn is important for the development of the nation. Family planning means achieving the desired number of children with appropriate spacing and timing. Failure to plan a pregnancy can adversely affect the health of a woman by exposing her to high risk pregnancies, unsafe abortions, reproductive tract infections and sexually transmitted diseases. Our aim was to study various socio-demographic characteristics of women in reproductive age and assess their knowledge, acceptability and usage of contraception, and to find the unmet need.

Methodology: A cross sectional descriptive study was conducted among 524 married women between age group of 18-48 attending general OPD at Sri Lakshmi Narayana Institute of Medical Sciences (SLIMS), Bharath University, Pondicherry- 605502, INDIA by employing random sampling method. All the women willing to participate were interviewed with pre-tested questionnaire after obtaining informed consent. The data collected was analysed by SPSSversion 16.

Results: Out of 524 women studied, 65.9% were younger than 35 years of age. Most of the couple were literate, were from rural areas and belonged to lower socio-economic status. 81.6% participants were aware of one or the other types of contraceptives. 63.7% were in favour of use of contraception and 57.8% reported to have used one or the other methods of contraceptives. Permanent methods (52.8%) were preferred by most of the participants than temporary method (11.25%) of contraception. Age of participants, years of married life, education of the self and spouse, socio-economic status, religion, working status and parity had significant role in knowledge and attitude on family planning practices. The unmet need for spacing was observed in 25.5% cases and unmet need for limiting in 16.6% of the cases.

Conclusion: The results suggest a significant knowledge-application gap with regards to contraceptive usage. This indicates the need for more intense awareness campaign for promoting contraceptive usages. This can be

brought about by facilitating access to more information, education and communication with couples in reproductive age. We also recommend sex and family education should be imparted from school years.

Key words: Contraception, knowledge, acceptance, practice, unmet need

Introduction:

Globally, family planning is promoted as a mechanism to address the reproductive needs of men and women as well as the crucial challenge of rapid population increase¹. Family planning basically refer to the practices that help the individual or couple to avoid unwanted births, by temporary or permanent methods, to regulate the interval between pregnancies, control the time at which birth occurs in relation to the age of parents and determines the number of children in the family². The family planning programme in India has experienced significant growth and adaptation over the past century, since its inception in 1957. The couple protection rate has quadrupled from 10% in 1970 to National CPR (48.2%) in 1998-99³. The official statistics report suggests that 87 million eligible couples, out of an estimated total of 171 million eligible couples were effectively protected against unwanted conception by various contraceptive methods. Reproductive and child health programme also indicate that in India, half of the currently married women were using some methods of contraception⁴. Studies conducted earlier in India, revealed most of the men and women were aware of various methods of contraception, however timely knowledge is lacking during the initial years after marriage. So this incomplete and inadequate information may lead to non acceptance of family planning methods and may be associated with unmet need of contraception⁵. Unmet needs are defined as those women who are fecund and sexually active neither pregnant nor amenorrhoeic and are not using any methods of contraception either to space the pregnancy or do not want any more

children⁶. Advantage of proper child spacing are enormous as the high fertility rate has been linked with under development in developing countries, birth spacing has been identified by the WHO as one of the six essential health interventions needed to achieve safe motherhood

The present study is aimed to assess the general awareness of contraception and contraceptives among the women. What are their attitudes towards fertility and their acceptance of contraceptive use? What are the reasons for use or non use of contraceptives? Is there any relation between women's knowledge of contraception with age, socio-economic status, religion, education etc? Such information would help health professionals to evaluate and promote the quality of services and achieving the goals of family planning programme. A proper family planning can reduce the maternal mortality by reducing the number of pregnancies, abortions and the proportions of births at risk.

Methodology:

A cross sectional prospective study was conducted on 524 married women between 18-48 years age group attending general outpatient department of Sri Lakshmi Narayana Institute of Medical Sciences (SLIMS), Bharath University, Pondicherry- 605502, INDIA employing systematic random sampling method. Exclusion criteria were patients who were unmarried, not willing to participate in the study and not falling in this age group. Informed consent was obtained and interview was conducted orally on a structured preformed questionnaire, which was developed to cover the research objectives. Utmost care was taken to maintain privacy and confidentiality. Ethical clearance was obtained from

the Institutional Ethics committee prior to the start of the study. Data entry and statistical analysis was done using SPSS version 16. The data collected using the abovementioned measures were analyzed using frequencies and percentages. Chi square test was used for testing the significance of association at P value of ≤ 0.05 and ≤ 0.01 .

Results:

In this study, 524 married women between ages 18-48 years attending general OPD and willing to participate in the study were interviewed through a pre-structured questionnaire.

Most of the participants (83.3%) had received education, wherein about 78.76% were educated upto high school, 4% had university degree and remaining 16.7% were uneducated.

85.2% of the participant's spouses were educated, wherein 28.5% had university degree and remaining 14.8% were illiterate.

73.85% of the participants belonged to rural and 26.14% were from urban areas. 56% of the participants were Hindu, 34.14% were Christian and 8.7% were Muslim. Most of the participants were from lower socio-economic status (75%). 84.1% of the participants were not working (**vide Table No 1**). 90.6% reported to reside within ≤ 3 km from the Government sponsored health facility.

The mean age of marriage among the participants in the present study was 22.25 ± 2.1 years and the mean years of marriage was 6.15 ± 4.1 years. 51.1% of the subjects had > 2 children and 49.8% had ≤ 2 children. 6.6% provided history of induced abortion, out of which 3.4% reported to have undergone abortion ≥ 2 times for unwanted pregnancy. 20.6% primi-parous and 4.9% multiparous women were willing to have more number of children. Most of the respondents (62.9%) desired ≥ 3 years birth interval between the child births. (**vide Table no 4**).

81.9% of the participants were aware of the availability of various contraceptive methods, namely condom, copper-T, oral pills and permanent methods of sterilization. 11.4% also had the knowledge of emergency contraception. However, the awareness of diaphragm and injectable types of contraceptives was least. 60.4% reported to have started using contraceptive before the age of 25 years. 52.8% have reported to have undergone permanent sterilization and 11.25% reported to have used temporary methods. (**vide table no 5**)

The main source of information regarding the availability of family planning services was through health care providers (69.2%), television (37.4) and other sources such as internet, print media, friends and relatives (**Figure No 1**).

Out of 524 participants, 428 (81.6%) subjects were aware of availability of contraceptives in the government health facility and 393 (75%) had easy accessibility to the same.

Out of 524 participants, 271 (52.8%) were in favour of tubectomy and 6 (1.1%) were in favour of vasectomy and 59 (11.25%) were in favour of temporary methods including emergency contraception (**Figure No. 2**).

The reason for non acceptance/discontinuation of available contraceptive measures were lack of knowledge in 22.9% cases, against religion (20.8%), worry of side effects (20.6%), non-availability (18.3%) and remaining were other reasons such as opposition by the family members, afraid of sterilization, ill health, inconvenience and cost factors (**Figure No. 3**).

Most of the women younger than 35 years of age were aware of contraception (95%), in favour of use of contraception (87.8%) and (81%) had practiced contraception. In older women aged > 35 years, though the knowledge of contraception was high (63.4%), but the acceptability (17.9%) and

usage (14%) was less. Significant ($p \leq 0.01$) association of knowledge, acceptability and practice was observed with age of the participants. The awareness (93%), acceptability (88%) and use of contraception (77.1%) was high in women married for <15 years, whereas in women married for >15 years reported adequate awareness (69.1%), but the acceptability and practice was low (17.9%). Years of marriage was found to be significantly ($p \leq 0.001$) associated with awareness and the practice of family planning. The awareness and use of contraception increased significantly ($p \leq 0.01$) with the increase in the level of education of the participants and their spouses. 94% of the participants from urban area were aware of contraception in comparison to 77% from the rural areas. 64.5% from the urban areas have practiced contraception in comparison to 55.5% from rural areas. Both the working (85.5%) as well as non-working (80.9%) participants showed equal awareness of family planning services, but the usage was comparatively low in non-working category. However, the awareness was high in all the socio-economic strata, but the usage of contraceptives was comparatively less in middle (48%) and lower (60.7%) strata (**vide Table No 1,2,3**).

Awareness, acceptability and use of contraceptives were significantly ($p \leq 0.01$) higher in Hindu and Christian community in comparison to Muslims. The awareness of contraception was almost similar in primi and multiparous participants, but the usage of contraceptive was higher (74.6%) in women having children ≤ 2 (74.6%) in comparison to women with >2 (41.7%) children (**Table No 1,2,3**).

In this study, the unmet need for contraception was found in 42.1% cases. Unmet need for spacing was found in 25.5% and 16.6% had unmet need for limiting.

Discussion:

Family planning basically refer to the practices that help the individuals or couples to avoid unwanted births, to regulate the interval between pregnancies and determine the number of children in the family². Family planning can reduce maternal mortality by lowering the number of pregnancies, abortions and proportion of births at risk^{7,8}. The use of contraceptives has been recognised as a key element in reducing fertility for all age groups in many developing countries^{9, 10, 11}. Review of literature shows that the advantage of proper child spacing are enormous as higher fertility rate has been linked with underdevelopment in developing countries¹². The family welfare programme in India seeks to promote the responsible parenthood with two child norms through voluntary choice of family planning¹³. Recent studies have shown that knowledge regarding deferent spacing methods vary from 10-60% among masses¹⁴. The knowledge gap restricts women's choice for the use of contraceptives.

In the present study, 81.6 % of the subjects were aware of one or more methods of contraception, which is relatively lesser than the earlier reports of 94.4%⁵, 95.2%², 97.7%⁶ and 100%^{15,16}. However, low awareness about contraceptives has also been reported in other parts of India, 52.4%^{17,18} and 42.4%¹⁷.

The present study revealed that a significantly higher number of the subjects were aware of Condom (66.3%), Copper T (69.4%), oral pills (56.1%) and permanent methods (81.6%) of sterilization in comparison to emergency and other methods of contraception. However the knowledge about cervical diaphragm and injectable contraceptives was the least.

Study among the Saudi women, oral contraceptive pills was known to all the participants. Intrauterine devices and the male condom were known to 67.8

% and 46.8% of the participants respectively. The least known temporary method was the cervical diaphragm (9.7%) and sterilization of males or females was reported by a few participants¹⁹.

Health care providers (69.2%) and television (36.4%) were the main source of information in the present study corroborated with the earlier findings⁵.

In other studies, television, radio and print media were the main source of information. Contrary to our results, limited role of the health care providers in disseminating the information on the contraception has been reported in Saudi Arabia and Nigeria^{1,19}.

In the present study, 81.6% of participants were aware of the availability and had easy accessibility to the contraceptives. These findings are correlated with the earlier reports of higher accessibility to the contraceptives in Pondicherry⁵.

Recent population surveys have reported that in 37 out of 60 developing countries surveyed, 95% of married women knew at least one contraceptive method, either modern or traditional^{20,21}.

Significantly more awareness of family planning methods was observed in younger women (<35 years age), married for less than 15 years, educated partners, more in Hindu and Christian community in comparison to Muslim community. However, the awareness was not associated with the socio-economic, working status and parity.

Similar study in Saudi Arabia revealed women's education, age at marriage and working status of the participants are the most important determinants for awareness of contraceptives¹⁹. A significant association was also found between contraceptive acceptance and literacy status, occupation, type of family, socioeconomic status and age at marriage in married women in

reproductive age group in the study in at Chanai, Beed district of Maharashtra, India²².

In our study, attitude on acceptance of family planning was significantly associated with age, years of married life, residential status, socio-economic status, working status and parity. However, the acceptability was not associated with religion. Usage of family planning methods was also significantly more in younger age group, married for less than 15 years, educated partners, in Hindu and Christians, higher socio-economic status, working class and with low parity. However, the practice of family planning was not associated with residential status.

Similar study in Kancheepuran, Tamil Nadu, India showed significant association between age groups of the participants and choice of contraceptive methods, however no significant association was reported between age of marriage and contraceptive usage¹⁷.

Studies conducted in Mewat, Haryana²³ and Dehradun²⁴, India revealed younger age of the women, illiteracy, and Muslim religion to be associated with low use of contraception.

Rasania et al. reported Hindu and Sikh women were more in favour of birth spacing in contrast to Muslim women in Delhi, India¹⁴. Similar trends have also been reported by other workers indicating a low acceptance of family planning methods by Muslim couples; though Islam, as a religion, does not necessarily discourage contraception^{25,26}. The notion that child spacing is forbidden in Islam, was countered by many Muslim religious leaders who were later included for successful implementation of family planning programmes that helped to deflect people's concern and inhibition about birth-spacing²⁶.

A study on the practice of contraception in Mangalore, India revealed that Christians followed the most, then, the Hindus and Muslims followed

the least². However, no influence of religion on contraceptive usage has also been reported²⁷.

In our study, most of the participants preferred and practiced tubectomy(52.8%) over temporary methods (11.25%) of contraception. Among the temporary methods, Copper-T (13.3%) was the most preferred by participants.

In a study carried out among the European women, oral contraceptives was most commonly used in Germany (54.3%), France (50.5%) and Sweden (34.6%) as compared to Cu-T²⁸.

Studies conducted in Andhra Pradesh and Eastern Delhi, tubectomy and condom (33.9%) were the most preferred methods of contraception^{29,30}.

In our study 221 (42.1%) were non users of contraceptives and the major causes for discontinuation or non use were lack of knowledge, worry about side effects and religious sentiments. The most common reasons cited in the earlier studies for non use of contraception were, the couple wanted to have more children, staying apart, religious beliefs, husband's or family opposition^{16,31,2}. Prateek et al. reported reason for non usage was no awareness regarding various contraceptive methods in 70.5% and 21.3% to be afraid of the side effects of contraceptives¹⁷.

In this study, the unmet need for contraception was 42.1%, out of which the unmet need for spacing and unmet need for limiting was 25.5% and 16.6% respectively.

The unmet need for contraception in neighbouring Kancheepuram district was reported in 93 subjects (51.6%) and out of which, 52 (28.9%) subjects had unmet need for spacing and rest 41(22.7%) had unmet need for limiting¹⁷.

In a study carried out in both rural and urban area of Gwalior, India, the unmet need of family planning was found to be 21.70%²². In a similar

descriptive study carried out among women in reproductive age group in Sudan the unmet need for contraception was found to be 30.7%³². The overall unmet need for family planning was 25.4% in a study carried out in resettlement colony in eastern Delhi, India³⁰. However, DLHS-3 conducted in Pondicherry reported total unmet need for family planning was 19.8%, out of which 6.5% for spacing and 13.3% for limiting³³. The higher reported prevalence of unmet need in this study may be because the institution (SLIMS) is a tertiary care centre and caters to a large population from Pondicherry and neighbouring states. The unmet need of contraception is mainly because of lack of knowledge, fear of side effects and family pressure.

Conclusion:

Contraceptive use has increased nearly in every country in recent decades. Various studies conducted all over India have shown that men and women are aware of various methods of contraception, but timely knowledge is lacking specially during initial years of marriage. This incomplete and inadequate information of contraception may lead to non acceptance of family planning methods and may be associated with unmet need of contraception.

The success of family planning program depends on ultimate acceptance and adoption of family planning measures by eligible couples. Hence, special attention should be placed on reaching younger women, on adult education program, informational approaches aimed at both sexes, especially in rural areas. In addition, sex and family education should be imparted from school years. One of the possible drawbacks of family planning programmes is that men are usually excluded from the programme, even when they are still major decision makers in the majority of households. Therefore, a more balanced approach to couples is

needed in which husbands also have equal participation in contraceptive practice.

We recommend sustained efforts by government and non-government organisation to raise the awareness and motivation for proper contraceptive

use. This can be brought about by facilitating access to more information, education and communication with the couples in reproductive age.

Table 1: Socio-demographic characteristics of the sample by knowledge of family planning

Variables	Aware of FP		Chi-Square	P-value
	Yes (428)	No (96)		
1. Age (in years)				
18-25 (n=132)	111 (84.09%)	21 (15.91%)	66.5	.000
26-35 (n=214)	204 (95.33%)	10 (4.67%)		
>35 (n=178)	113 (63.48%)	65 (36.52%)		
2. Years married				
≤5 (n=127)	101 (79.53%)	26 (20.47%)	38.5	.000
6-14 (n=219)	204 (93.15%)	15 (6.85%)		
≥15 (n=178)	123 (69.10%)	55 (30.90%)		
3. Education- Husband				
Illiterate (n=78)	59 (75.64%)	19 (24.36%)	55.7	.000
Middle school (n=103)	67 (65.05%)	36 (34.95%)		
High school (n=193)	152 (78.76%)	41 (21.24%)		
Graduate (n=94)	94 (100%)	0 (0%)		
Post graduate (n=56)	56 (100%)	0 (0%)		
4. Education – Wife				
Illiterate (n=88)	10 (11.36%)	78 (88.64%)	366	.000
Middle school (n=201)	188 (93.53%)	13 (6.47%)		
High school (n=211)	209 (99.05%)	2 (0.95%)		
Graduate (n=15)	15 (100%)	0 (0%)		
Post graduate (n=9)	9 (100%)	0 (0%)		
5. Residential status				
Urban (n=137)	130 (94.89%)	7 (5.11%)	21.6	.000
Rural (n=387)	298 (77.00%)	89 (23.00%)		
6. Religion				
Hindu (n=299)	277 (92.64%)	22 (7.36%)	86.2	.000
Muslim (n=46)	18 (39.13%)	28 (60.87%)		
Christian (n=179)	133 (74.30%)	46 (25.70%)		
7. Socio-economic Status				
Upper class (n=2)	2 (100%)	0 (0%)	1.09	.580
Middle class (n=125)	99 (79.20%)	26 (20.80%)		
Lower class (n=397)	327 (82.37%)	70 (17.63%)		
8. Working Status				
Working (n=83)	71 (85.54%)	12 (14.46%)	.983	.321
Non working (n=441)	357 (80.95%)	84 (19.05%)		
9. Parity				
≤2 (n=256)	202 (78.91%)	54 (21.09%)	2.57	.109
>2 (n=268)	226 (84.33%)	42 (15.67%)		

Table 2: Socio-demographic characteristics of the sample by attitude of family planning

Variables	Favour of FP		Chi-Square	P-value
	Yes (334)	No (190)		
1. Age (in years)				
18-25 (n=132)	114(86.36%)	18(13.64%)	244	.000
26-35 (n=214)	188(87.85%)	26(12.15%)		
>35 (n=178)	32(17.98%)	146(82.02%)		
2. Years married				
≤5 (n=127)	109(85.83%)	18(14.17%)	244	.000
6-14 (n=219)	193(88.13%)	26(11.87%)		
≥15 (n=178)	32(17.98%)	146(82.02%)		
3. Education- Husband				
Illiterate (n=78)	2(2.56%)	76(97.44%)	312	.000
Middle school (n=103)	24(23.30%)	79(76.70%)		
High school (n=193)	158(81.87%)	35(18.13%)		
Graduate (n=94)	94(100%)	0(0%)		
Post graduate (n=56)	56(100%)	0(0%)		
4. Education – Wife				
Illiterate (n=88)	2(2.27%)	86(97.73%)	265	.000
Middle school (n=201)	105(52.24%)	96(47.76%)		
High school (n=211)	203(96.21%)	8(3.79%)		
Graduate (n=15)	15(100%)	0(0%)		
Post graduate (n=9)	9(100%)	0(0%)		
5. Residential status				
Urban (n=137)	116(84.67%)	21(15.33%)	35.2	.000
Rural (n=387)	218(56.33%)	169(43.67%)		
6. Religion				
Hindu (n=299)	198(66.22%)	101(33.78%)	1.86	.395
Muslim (n=46)	28(60.87%)	18(39.13%)		
Christian (n=179)	108(60.34%)	71(39.66%)		
7. Socio-economic Status				
Upper class (n=2)	2(100%)	0(0%)	6.16	.046
Middle class (n=125)	69(55.20%)	56(44.80%)		
Lower class (n=397)	263(66.25%)	134(33.75%)		
8. Working Status				
Working (n=83)	79(95.18%)	4(4.82%)	42.2	.000
Non working (n=441)	255(57.82%)	186(42.18%)		
9. Parity				
≤2 (n=256)	122(47.66%)	134(52.34%)	56	.000
>2 (n=268)	212(79.10%)	56(20.90%)		

Table 3: Socio-demographic characteristics of the sample by practice of family planning

Variables	Practice of FP		Chi-Square	P-value
	Yes (303)	No (221)		
1. Age (in years)				
18-25 (n=132)	103(78.03%)	29(21.97%)	207	.000
26-35 (n=214)	174(81.31%)	40(18.69%)		
>35 (n=178)	26(14.61%)	152(85.39%)		
2. Years married				
≤5 (n=127)	102(80.31%)	25(19.69%)	176	.000
6-14 (n=219)	169(77.17%)	50(22.83%)		
≥15 (n=178)	32(17.98%)	146(82.02%)		
3. Education- Husband				
Illiterate (n=78)	33(42.31%)	45(57.69%)	56.6	.000
Middle school (n=103)	41(39.81%)	62(60.19%)		
High school (n=193)	107(55.44%)	86(44.56%)		
Graduate (n=94)	79(84.04%)	15(15.96%)		
Post graduate (n=56)	43(76.79%)	13(23.21%)		
4. Education – Wife				
Illiterate (n=88)	0(0%)	88(100%)	150	.000
Middle school (n=201)	143(71.14%)	58(28.86%)		
High school (n=211)	139(65.88%)	72(34.12%)		
Graduate (n=15)	13(89.67%)	2(13.33%)		
Post graduate (n=9)	8(88.89%)	1(11.11%)		
5. Residential status				
Urban (n=137)	88(64.23%)	49(35.77%)	3.12	.077
Rural (n=387)	215(55.56%)	172(44.44%)		
6. Religion				
Hindu (n=299)	193(64.55%)	106(35.45%)	21	.000
Muslim (n=46)	14(30.43%)	32(69.57%)		
Christian (n=179)	96(53.63%)	83(46.37%)		
7. Socio-economic Status				
Upper class (n=2)	2(100%)	0(0%)	7.76	.021
Middle class (n=125)	60(48.00%)	65(52.00%)		
Lower class (n=397)	241(60.71%)	156(39.29%)		
8. Working Status				
Working (n=83)	61(73.49%)	22(26.51%)	9.93	.002
Non working (n=441)	242(54.88%)	199(45.12%)		
9. Parity				
≤2 (n=256)	191(74.61%)	65(25.39%)	57.8	.000
>2 (n=268)	112(41.79%)	156(58.21%)		

Table no 4. Obstetrics history of the subjects

Variables	No of Subjects	Percentage
Age at marriage		
<18	29	
18-25	354	
26-35	148	
>35	3	
Married Years		
<5	109	
5-14	212	
≥15	203	
Para		
≤2	256	
≥2	268	
Abortions		
Spontaneous	54	
Induced	35	
No. of abortions for unwanted pregnancy		
≤2	17	
≥2	18	
Willingness to have more children		
Primi-para	108	
Multi-para	26	
Desired Birth Interval		
≤3 Years	194	
≥3 Years	330	

Table No 5. Availability of knowledge on contraceptives and their uses

Variables	No of Subjects	Percentage
Awareness about available contraceptives in Market		
Yes	428	81.6
No	96	18.3
Types of contraceptives known by the subjects		
Natural	15	2.8
Condom	394	66.3
Diaphragm	0	
Copper-T	364	69.4
Oral pills	294	56.1
Injectables	5	
Permanent methods	428	81.6
Awareness about emergency contraceptives		
Yes	60	11.4
No	464	88.5
Age at first time start of Contraceptive		
<18	0	

18-25	343	65.4
26-35	73	13.9
>35	12	2.2
Family planning methods ever used		
Permanent methods		
Yes	277	52.8
No	247	47.1
Temporary methods		
Yes	36	6.8
No	488	93.1
Emergency methods		
Yes	23	4.3
No	501	95.6

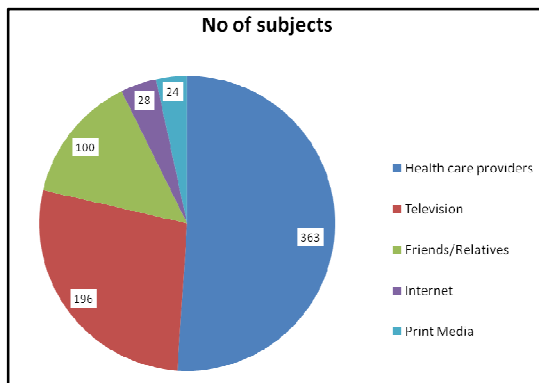


Figure No 1. Source of information of available family planning service

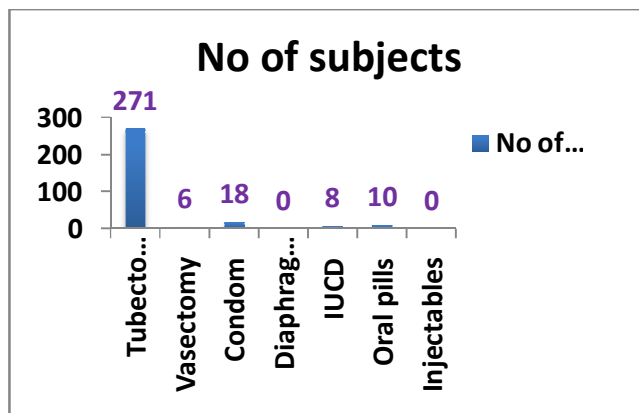


Figure No 2. Preference for methods of contraception

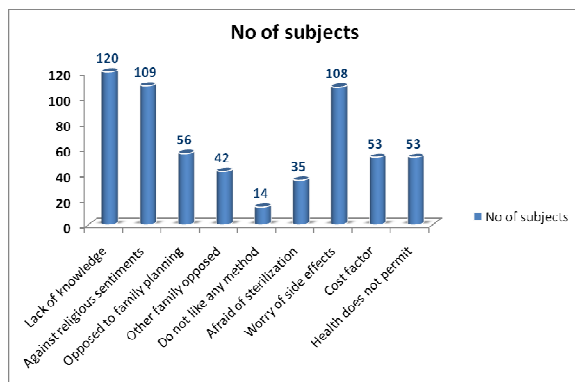


Figure No 3. Reasons for discontinuation or non use of contraceptives

Competing interests:

The authors have no competing interests to declare and no funding was received for this work.

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References:

1. Adeyemo AR, Asabi O and Adedotun O. Knowledge and Practice of Contraception among Women of Reproductive Ages in South West, Nigeria. *The International Journal of Engineering and Science*. 2012 ; 1 (2): 70-76..
2. Lakshmi. M M, Neetha and Rai S. Contraceptive practices among reproductive age group of women in Justice K. S. Hegde Medical College Hospital, Mangalore. *Int J Reprod Contracept Obstet Gynecol*. 2013; 2(1):39-46
3. National Family Health Survey-2 (NFHS-2), 1998-99, India, International Institute for Population Sciences, Mumbai.
4. Ministry of Health and Family Welfare (MOHFW). Family welfare programme in India. New Delhi: Government of India. 2003.
5. Kokane A M, Palanivel C, Mahajan P B, Nair K and Bipin BB. Assessment of Knowledge and practice of Contraception among Antenatal Cases attending ANC Clinic. *Indian Journal of Maternal and Child Health*, 2011; 13 (4): 2-8
6. National Family Health Survey-3 (NFHS-3), India, International Institute for Population Sciences, Mumbai. 2005-2006
7. Levine R, Langer A, Birdsall N, Matheny G, Wright, M and Bayer A. Contraception. In: Jamison DT, Breman, JG, Measham AR, et al., eds. *Disease Control. Priorities in Developing Countries*. New York: Oxford University Press; 2006:1075–1090.

8. Lule E, Singh S and Chowdhury SA. Fertility Regulation Behaviors and Their Costs: Contraception and Unintended Pregnancies in Africa and Eastern Europe & Central Asia. HNP Publication, World Bank: Washington DC, USA . December 2007
9. Adinma B. An overview of the global policy consensus on women's sexual and reproductive rights: The Nigerian perspective. *Trop J Obstet Gynaecol.* 2002;(Suppl. 1):9–12.
10. Information and Knowledge for Optimal Health (INFO) Project. Center for Communication Programs, The Johns Hopkins University Bloomberg School of Public Health, 111 Market Place, Suite 310, Baltimore, Maryland 21202, USA. Volume XXXI, Number 2, Spring 2003, Series M, Number 17, Special Topics
11. Cleland J, Bernstein S, Ezeh A, Faundes A, Glasier A and Innis J. Family planning: the unfinished agenda. *Lancet.* 2006;368:1810-1827.
12. Obisesan KA, Adeyemo AA and Fakokunde BO. Awareness and use of family planning methods among married women in Ibadan, Nigeria. *East Afr Med J.* 1998; 75(3):135-138
13. Manual on 'Target Free Approach' in National Family Welfare Programme
Min of Health & Family Welfare, New Delhi. 1996
14. Rasania S.K., Pathi S, Singh D, Bhalla S, Khandekar J. Attitude Towards Birth Spacing: A Cross-Sectional Study Among Women Living in J.J. Clusters in Delhi. *Health and Population Perspectives and Issues.* 2004;27(4): 211-217,
15. Takkar N, Goel P, Dua D. Contraceptive practices and awareness of emergency contraception in educated working women. *Indian J Med Sci.* 2005;59:143-9.
16. Sajid A, Malik S. Knowledge Attitude and Practice of contraception among multiparous women at Lad Aitchison hospital, Lahore. *Annals of KEMU.* 2010;16:266-8.
17. Patil SS, Durgawale MP, Patil SR. Epidemiological Correlates of Unmet Need for Contraception in Urban Slum Population. *Al Ameen J Med Sci.* 2010;3(4): 312-316.
18. Prateek SS and Saurabh RS. Contraceptive practices adopted by women attending an urban health centre. *African Health Science.* 2012; 12 (4): 416-421.
19. Sheeha MA. Awareness and Use of Contraceptives Among Saudi Women Attending Primary Care Centers in Al-Qassim, Saudi Arabia. *International J. Health Sci., Qassim University.* 2010; 4 (1): 11-21
20. Akakpo, B. Safer young motherhood in Ghana. *Planned Parenthood Challenges.* 1998; (1):19-20.
21. Bella H and Al- Almaie Sm. Do children born before and after adequate birth intervals do better at school? *J Trop Pediatr.* 2005;51(5):265-70.
22. Murarkar S K and Soundale SG. Epidemiological correlates of contraceptive prevalence in married women of reproductive age group in rural area. *National Journal of Community Medicine* 2011; 2(1): 78-81.
23. Gaur D, Goel M K and Goel M. Contraceptive practices and related factors among females in predominantly rural Muslim area of North India. *The Internet Journal of World Health and Societal Politics.* 2008; 5(1).

24. Chandra RA K, Kandpal S D and Negi KS. Epidemiological Correlates of Contraceptive Prevalence in Rural Population of Dehradun District. *Indian J Community Med.* 2005; 30(2): 60-62.
25. Dehna K L. Knowledge and attitude towards, and practices relating to childspacing methods in Northern Burkina Faso. *J Health Popul Nutr,* 2003;2(1): 55-56.
26. Increased birth-spacing reduces health risks for children. *DHSDimens* 1999;1(1):8.
27. Pushpa S P, Venkatesh R and Shivaswamy MS. Study of fertility pattern and contraceptive practices in a rural area- a cross sectional study. *Indian J Sci Technol* 2011;4:429-31.
28. De Irala J, Osorio A, Carlos S, Lopez-Del Burgo C. Choice of birth control methods among European women and the role of partners and providers. *Contraception.* 2011; 84(6): 558-564.
29. Varma G R and Rohini A. Attitude of Spouse towards Family Planning: A Study among Married Men and Women of a Rural Community in West Godavari District, Andhra Pradesh. *Anthropologist.* 2008; 10(1): 71-75.
30. Saini NK, Bhasin S K, Sharma R and Yadav G. Study of unmet need for family planning in a resettlement colony of east Delhi. *Health and Population-Perspectives and Issues* 2007; 30(2): 124-133
31. Saluja N, Sharma S, Choudhary S and Gaur DR. Contraceptive knowledge, Attitude and Practices Among Eligible Couples of Rural Haryana. *Internet J Health* 2011;12:[1].
32. Umbeli T, Mukhtar A and Abusalab MA. Study of unmet need for family planning in Dar Assalam, Sudan 2001. *Eastern Mediterranean Health Journal* 2005; 11(4): 594-600.
33. District Level Household and Facility Survey (DLHS-3)- Fact Sheet Puducherry. (2007-2008). International Institute for Population Sciences