

A Record Based Study On Various Factors Affecting The Choice Of Intra-Uterine Contraceptive Device In Ahmedabad City

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Abstract: Background: Unplanned pregnancy may be the reason of many neonatal and maternal adverse effects. The objective is to study various factors affecting IUCD (temporary contraceptive method) preference. Material And Methods: A record based study of data of 483 couples selecting IUCD, during the one year period was collected with permission from tertiary care hospital. Result: The most common group preferring IUCD was 21-30 years (mean age- females-26 years and males-30 years). Majority having 2 children opted for IUCD while only 1 couple opted for IUCD without any child. Out of the total, 42% opted PPIUCD, 42% interval IUCD and 16% PAIUCD. Among lower age and up to primary educated groups, majority opted for PPIUCD. Among higher age and educated groups, majority opted for interval IUCD. PAIUCD proportion was higher in less educated females. Majority of Muslims preferred PPIUCD while Hindus, interval IUCD. The association of type of IUCD with age, number of children and religion was found significant while with education, it was in-significant. Conclusion: The use and type of IUCD preferred depends on various factors such as age of male and female, number of children and religion of couples. [Parikh B Natl J Integr Res Med, 2021; 12(1):52-56]

Key Words: IUCD, PPIUCD, interval IUCD, PAIUCD, Temporary contraceptive method.

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Introduction: Unplanned pregnancy may be the reason of neonatal and developmental adverse effects and it may impair the maternal health and wellbeing¹. In India, the birth control program was implemented in 1952 as a national population policy². This benefits mother as well as her child since contraceptive use has the potential to improve perinatal outcomes and child survival by spacing the birth interval and reduce maternal morbidity and mortality related too high parity and unintended pregnancies³.

Among all the spacing methods, IUCD (Intra Uterine Contraceptive Devices), condoms and OC (Oral Contraceptive) pills are the most commonly used methods⁴. Post-partum IUCD at the time of childbirth or within 48 hours has addressed the need of contraception in the post-partum period as well as omitted the need for second visit to a health set-up for interval IUCD (preferred method few years ago), which requires a lot of motivation⁵. Recently, there has been increasing importance of offering effective & acceptable contraceptive services to women immediately after childbirth (PPIUCD)³. According to Journal of Contraceptive Studies very few (13%) women used intra uterine device, with more chances of continuity and no teenager uses IUCD⁶.

It is commonly thought that contraceptive selection is based on various factors like socio-economic background, education, age of parents, religion and number of children. Due to limited data on multiple factors affecting the selection of contraceptive, it is worth to analyze the record based data and use it to identify the various socio-demographic factors affecting the decision of choice of IUCD. The objectives of study are 1. To study the socio-demographic profile of various couples choosing IUCD. 2. To correlate the various socio-demographic factors affecting the decision of choice of IUCD as a contraceptive method.

Material and Methods: A record based study carried out at the Family planning unit of Obstetrics and Gynaecology, at one of the tertiary care hospital of Ahmedabad city. Data of the Couples selecting IUCD at the above hospital during the one year period from April 2018 to March 2019 was collected with permission of respective unit of hospital as well as dean of college as a part of regular Undergraduate curriculum study.

Total 483 couple had opted IUCD as the family planning method during this one year period.

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The data included the variables like education of couple, their age, and number of children, age of last child, religion, and time of insertion of IUCD.

Result: A total of 483 couples opting for insertion of IUCD in Family Planning Unit of Obstetrics and was found to be 45 years and in males it was 50 years, while the minimum age in females was 18 years and in males was 20 years. The most common age group in females and males observed was between 21-30 years. Majority of females (64%) and males (51%) were educated up to primary level. Out of the total, 361(74.5%) couples were Muslim and 122(25.5%) were

Gynaecology, Department of V.S. General Hospital, Ahmedabad from April 2018 to March 2019. Mean age of females opting for IUCD insertion was 26.02 ± 4.779 years and males was 29.87 ± 5.056 years. Maximum age in females

Hindus. [Table 1] Out of the total couples, majority 257(53.2%) had 2 children in their family and 1 couple did opt for IUCD even without any child while 19.7% of the couples had more than 3 children (16.6%(80) couples had 3 children, 2.7%(13) couples had 4 children and 0.4%(2) couples had 6 children).

Table 1: Demographic Data

Age Group(Years)	Number Of Women (%)	Number Of Men (%)
11-20	47(9.7)	1(0.2)
21-30	370(76.6)	325(67.3)
31-40	62(12.8)	140(29.0)
41-50	4(0.8)	17(3.5)
Total	483(100)	483(100)
Educational Status	Number Of Women (%)	Number Of Men (%)
Illiterate	40(8.3)	25(5.2)
Primary education	310(64.2)	246(50.9)
Secondary education	117(24.2)	179(37.1)
Graduate	16(3.3)	33(6.8)
Total	483(100)	483(100)
Religion Of Couple	Number Of Couples	Percentage (%)
Hindu	122	25.5
Muslim	361	74.5
Total	483	100.0

This division of IUCD insertion time was adopted from Reference Manual of IUCD Services (March 2018)7. When distributed the couples as per the time of insertion of IUCD, 42% were in the postpartum period (PPIUCD), same percentage of couple opted Interval IUCD and 16% got inserted after abortion. (Post Abortion Intra Uterine Contraceptive Device) (PAIUCD).The time of insertion of IUCD was associated with various variable like male and female education, age of the male and female, religion of the couple and total number of children.

Selecting the mean age as cut off, males and females were divided in two groups of age. Among males, up to 30 years group, PPIUCD proportion was highest (49%) while in above 30 years group, highest proportion (54%) observed was of interval IUCD. Similarly among females, up to 26 years group, PPIUCD proportion was highest (49%) while in above 26 years group,

highest proportion (52%) observed was of interval IUCD. When age of male and female was associated with time of insertion of IUCD, the association found to be highly significant (Males-Chi square 20.084, P = 0.000 and Females-Chi square 15.177, P = 0.001). Among primary level educated males, PPIUCD proportion was highest(43%) while among males with higher education, highest proportion (46.7%) observed was of interval IUCD. Same findings observed in female also. Among primary level educated females, PPIUCD proportion was highest (42.57%) while among higher level educated females, highest proportion (45.86%) observed was of interval IUCD. PAIUCD proportion was higher in primary level educated females compared to higher level educated females. The association of time of insertion of IUCD and educational status of males and females was found in-significant (Males-Chi square =5.483, P = 0.064; Females- Chi square =1.901, P = 0.387).

Among Muslim couples, highest proportion (45.98%) observed was of PPIUCD, while in Hindu couples, highest proportion (50.8%) observed was of interval IUCD. This association between religion and time of insertion was found to be significant (Chi square =8.359, P = 0.015). Among the couples with up to 2 children, highest

proportion (44.58%) observed was of PPIUCD, while in couples with more than 2 children, highest proportion (55.7%) observed was of interval IUCD. The association between total number of children and the time of insertion of IUCD was found to be significant (Chi square=9.512, P=0.009).[Table2]

Table 2: Association Between Method Of IUCD Preferred With Educational Status And Age Of Male And Female, Their Religion And Total Number Of Children

		PAIUCD 16%(77)	Interval IUCD 42%(202)	PPIUCD 42%(204)	TOTAL	CHI SQAURE VALUE	P-VALUE
Age Groups							
Male	up to 30 years	49(15)	117(35.89)	160(49.07)	326(67.5)	20.084	0.000
	>30 years	28(17.83)	85(54.14)	44(28.03)	157(32.5)		
Female	up to 26 years	47(15.46)	109(35.86)	148(48.68)	304(62.9)	15.177	0.001
	>26 years	30(16.76)	93(51.96)	56(31.28)	179(37.1)		
Educational Status							
Male	Up to primary	51(18.8)	103(38)	117(43)	271(56.1)	5.483	0.064
	Secondary and above	26(12.3)	99(46.7)	87(41.03)	212(43.9)		
Female	Up to primary	60(17.14)	141(40.28)	149(42.57)	350(72.5)	1.901	0.387
	Secondary and above	17(12.78)	61(45.86)	55(41.35)	133(27.5)		
Religion							
Hindu		22(18.03)	62(50.82)	38(31.15)	122(25.25)	8.359	0.015
Muslim		55(15.24)	140(38.78)	166(45.98)	361(74.75)		
Total Number Of Children							
Up to 2		66(17.01)	149(38.4)	173(44.58)	388(80.33)	9.512	0.009
More than 2		11(11.5)	53(55.7)	31(32.6)	95(19.66)		

Discussion: Mean age of females opting for IUCD insertion was 26.02 ± 4.779 years. A similar study by Valliappan A, Dorairajan G, Chinnakali P. showed that for PPIUCD, the mean age of females was 25.52 years with a standard deviation (SD) of 4.34 years⁸. Females and males between the age group of 21-30 years were found to be the most common among couples opting for IUCD insertion in our study, similarly Singh U, Sonkar S, Yadav P, Dayal M, Gupta V, Saxena S. study also reported maximum number of females opting for IUCD either interval or postpartum, belonged to age group 25 – 30 years, suggesting that women at younger age are more easily counselled⁹. Kumar G, Chaurasia RC, Singh SP. study also reported that the age group of 25 - 32 years was most likely to opt for IUCD¹⁰.

A similar study by Valliappan A, Dorairajan G, Chinnakali P. showed that majority of women (147) were in the age group of 20–24 years⁸. Out

of the total couples, majority 257(53.2%) had 2 children in the family and only 1 couple opted for IUCD even without any child while 19.7% of the couples had more than 3 children. Study by Wang D, Altmann DR. reported that women with no living children had the lowest level of IUD use of 0.7%¹¹. This may be due to reason that a high proportion of nulliparous women do not prefer IUCD. However, Wang D, Altmann DR. also showed that IUCD use was highest for women with one living child (almost 57%) but declined sharply to less than 26% for those with two, or more than two children, who probably switched to sterilization¹¹. When the couples were distributed as per the time of insertion of IUCD, 42% were in the PPIUCD, same percentage of couples opted for Interval IUCD and 16% got IUCD inserted after abortion(PAIUCD).

However, in another study, it was observed PPIUCD is preferred over interval IUCD and with

the introduction of PPIUCD in national family programme; more women are inclining towards long-term spacing method and not resorting to sterilizations⁵. This was also seen in a study by Kant S, Archana S, Singh AK, Ahamed F, Haldar P. who stated that acceptance of IUCD immediately post-partum was higher because often, women hear about PPIUCD only when they are in labor, a time when it is difficult to make informed decision¹² and study by Makins A et al. stated that given that most women are encouraged to leave hospital with some form of long acting contraception and there are limited choices, PPIUD becomes an attractive option for young women of low parity owing to its reversibility¹³.

Among females, in below 26 years group, PPIUCD proportion is highest and in above 26 years group, interval IUCD. Similarly another study showed that in India, older women were less likely to accept PPIUCD (OR 1.16)³. In primary level educated males, PPIUCD proportion was highest (43%) while in males with higher education, interval IUCD. Same findings observed in female also. This was highlighted in study by Dwivedi SN, Sundaram KR.

who stated that when females were educated to high school level and above and husbands were literate with schooling of more than or equal to 11 years, were more likely to adopt interval IUCD¹⁴. Also, PAIUCD proportion is higher in primary level educated females compared to higher level educated females. Bhattathiry MM, Ethirajan N. study points to lack of education being the major reason for unmet need of family planning¹⁵. Our study found significant association between religion and time of insertion. Among Muslim couples, the PPIUCD proportion was highest, while among Hindu couples, interval IUCD.

Similarly study by Nahar KN et al. also reported that Muslim women were more likely to accept PPIUCD¹⁶. Among the couples with up to 2 children highest proportion was of PPIUCD, while couples with more than 2 children, interval IUCD proportion were highest. This was also shown in the study by Makins A et al. which stated that higher the parity lesser is the woman likely to opt for PPIUCD and women with lower parity were more likely to accept PPIUCD¹³.

Conclusion: The study shows that IUCD being temporary contraceptive method is preferred

more in those with 2 children and young couples suggesting that older couples with completed family might be preferring permanent methods. Also, PPIUCDs are preferred as much as interval IUCDs nowadays. Age of males as well as females play a major role in choice of IUCD type.

Similarly, PAIUCD was higher in less educated females which reflects the importance of education in unmet need of family planning. The study also highlights that among lower age and up to primary education groups, majority opted for PPIUCD while among higher age and education groups, majority opted for interval IUCD. Thus, various factors such as age of males as well as females, religion and number of children of couples are significantly associated with type of IUCD preferred.

References:

1. Singh S, Shekhar C, Acharya R, Moore AM, Stillman M, Pradhan MR, Frost JJ, Sahoo H, Alagarajan M, Hussain R, Sundaram A. The incidence of abortion and unintended pregnancy in India, 2015. *The Lancet Global Health*. 2018 Jan 1;6(1):e111-20.
2. De Oliveira IT, Dias JG, Padmadas SS. Dominance of sterilization and alternative choices of contraception in India: an appraisal of the socioeconomic impact. *PLoS One*. 2014 Jan 28;9(1):e86654.
3. Makins A, Taghinejadi N, Sethi M, Machiyama K, Thapa K, Perera G, Munganyizi PS, Bhardwaj A, Arulkumaran S. Factors influencing the likelihood of acceptance of postpartum intrauterine devices across four countries: India, Nepal, Sri Lanka, and Tanzania. *International Journal of Gynecology & Obstetrics*. 2018 Sep;143:13-9.
4. Samal J, Dehury RK. Family planning practices, programmes and policies in India including implants and injectables with a special focus on Jharkhand, India: a brief review. *Journal of clinical and diagnostic research: JCDR*. 2015 Nov;9(11):LE01.
5. Dewan R, Bajaj B, Kapoor G, Pardeshi GS. Changing Scenario in Indian Contraceptive Methods: A Glimpse Through a Tertiary Hospital Statistics. *The Journal of Obstetrics and Gynecology of India*. 2019 Oct 1;69(5):462-6.
6. Obstetrics Gynaecology MG. Temporary Contraceptives by Rural Young Women. *Journal of Contraceptive Studies*. 2018;3(4):24.

7. IUCD in Interval and Post Pregnancy Period, Reference Manual of IUCD Services (March 2018), National Health Mission, Family Planning Division, Ministry of Health and Family Welfare, Government of India.
8. Valliappan A, Dorairajan G, Chinnakali P. Postpartum intrauterine contraceptive device: Knowledge and factors affecting acceptance among pregnant/parturient women attending a large tertiary health center in Puducherry, India. *International Journal of Advanced Medical and Health Research*. 2017 Jul 1;4(2):69.
9. Singh U, Sonkar S, Yadav P, Dayal M, Gupta V, Saxena S. Comparative evaluation of postpartum IUCD versus interval IUCD at a tertiary care centre in Allahabad, India. *International Journal of Reproduction, Contraception, Obstetrics and Gynecology*. 2017 Mar 30;6(4):1535.
10. Kumar G, Chaurasia RC, Singh SP. Efficacy and Adverse Effects of Topical Latanoprost with Respect to Preservative in Patients of POAG. *Journal of Clinical & Diagnostic Research*. 2018 Aug 1;12(8).
11. Wang D, Altmann DR. Socio-demographic determinants of intrauterine device use and failure in China. *Human Reproduction*. 2002 May 1;17(5):1226-32.
12. Kant S, Archana S, Singh AK, Ahamed F, Haldar P. Acceptance rate, probability of follow-up, and expulsion of postpartum intrauterine contraceptive device offered at two primary health centers, North India. *Journal of family medicine and primary care*. 2016 Oct;5(4):770.
13. Makins A, Taghinejadi N, Sethi M, Machiyama K, Thapa K, Perera G, Munganyizi PS, Bhardwaj A, Arulkumaran S. Factors influencing the likelihood of acceptance of postpartum intrauterine devices across four countries: India, Nepal, Sri Lanka, and Tanzania. *International Journal of Gynecology & Obstetrics*. 2018 Sep;143:13-9.
14. Dwivedi SN, Sundaram KR. Epidemiological models and related simulation results for understanding of contraceptive adoption in India. *International journal of epidemiology*. 2000 Apr 1;29(2):300-7.
15. Bhattathiry MM, Ethirajan N. Unmet need for family planning among married women of reproductive age group in urban Tamil Nadu. *Journal of family & Community medicine*. 2014 Jan;21(1):53.
16. Nahar KN, Fatima P, Dewan F, Yesmin A, Laila TR, Begum N, Deeba F, Chowdhury S, Akhter

N. Acceptability and Feasibility of Postpartum Intra Uterine Contraceptive Device Insertion in Bangabandhu Sheikh Mujib Medical University, Dhaka, Bangladesh. *Bangladesh Medical Journal*. 2018;47(3):25-31.

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