

## Research Article

# Socio-demographic profile of copper-T beneficiaries in the family planning out-patient department of a teaching hospital: a record-based descriptive study

Dinesh R. Samel<sup>1\*</sup>, Jai N. Senapati<sup>2</sup>, Gopalkrishna V. Paradkar<sup>2</sup>

<sup>1</sup>Department of Community Medicine, Rajiv Gandhi Medical College, Kalwa, Thane 400 605, Maharashtra, India

<sup>2</sup>Department of Obstetrics and Gynaecology, Rajiv Gandhi Medical College, Kalwa, Thane 400 605, Maharashtra, India

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**\*Correspondence:**

Dr. Dinesh R. Samel,

E-mail: [drsamel@gmail.com](mailto:drsamel@gmail.com)

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### ABSTRACT

**Background:** Intra uterine contraceptive devices (IUCD) used as a spacing method is one of the main strategies of the family welfare programme, as they are among the safest and most effective, affordable and convenient reversible contraceptives available. The objectives of the study were to study the socio-demographic details of beneficiaries accepting Cu-T in the family planning OPD of the medical college, relation of IUCD insertion time with respect to menses or delivery and its outcome.

**Methods:** After IEC approval, a descriptive, complete enumeration study of recorded data from IUD register from 2006 to 2015 (n=1141) was carried out from the IUCD registers of the family planning out-patient department (OPD) of a medical college.

**Results:** Beneficiaries had a significantly lower literacy rate ( $p < 0.05$ ) and a lower employment rate ( $p < 0.01$ ) than their husbands. 447 (39.4%) women accepted IUCD before 1 year from their last delivery. In 20 women, IUCDs were expelled, while in 32 (2.8%), they were wasted. The difference between the couples having no male children and those having at least 1 male child opting for IUCD was statistically highly significant ( $p < 0.01$ ).

**Conclusions:** Cu-T is being well utilised as a spacing method in the Family Welfare Component of the Reproductive and Child Health Programme. Evidence of Preference for a male child can be seen in this study.

**Keywords:** Copper-T beneficiaries, Demographic profile, Record based study

### INTRODUCTION

Spacing methods is one of the key strategies in the Family Planning Component of the RMNCH+A programme to bring about a decrease in the birth rates.<sup>1</sup> Intra Uterine Contraceptive Devices (IUCD) which are among the safest and most effective reversible contraceptives available, are affordable, convenient to use, do not require re-supply visits and are very cost-effective.<sup>2</sup> In order to popularize IUCDs, we have to understand the various factors which can influence the

decision regarding its use. For this, it is imperative that related data over different time zones and different regions be regularly analysed and compared.

The present study analyses the various socio-demographic factors of IUCD acceptors in the family planning OPD of a medical college. Also, service component like timing of insertion and wastage of Copper-T during insertion was studied.

**Objectives**

- To study the socio-demographic profile of beneficiaries using Cu-T over last 10 years.
- To study the time of insertion of Cu-T with relation to menses or delivery.
- To study the outcome of IUCD insertion.

**METHODS**

**Study design:** Descriptive study of recorded data.

**Place of study:** The study was carried out from the records of IUD insertion in the family planning OPD of a teaching hospital located in a Mumbai Metropolitan Region.

**Ethical approval:** Ethical approval was obtained from the Institutional Ethics Committee.

**Source of data:** Secondary data from IUD register and case records.

**Sample:** The study is a complete enumeration study. All the IUD insertions in the OPD from the year 2006 to year 2015 (n=1141) were included.

**Operational definition:** An education of graduation or above or professional education was considered higher education while skilled or professional jobs and ownership of business was considered higher employment.

**Analysis:** Categorical data were presented as frequencies and continuous data as mean ± standard deviation (SD). Statistical significance of difference was calculated by Chi Square test.

**RESULTS**

The socio-demographic details of Cu-T beneficiaries and their husbands are given in Table 1. Mean age of beneficiaries was 27.1 years with a SD of 4.92 years while mean age of their husbands was 31.6 years with a SD of 5.6 years. Only 225 (19.7%) beneficiaries and 276 (24.2%) husbands of beneficiaries had higher education while only 15 (1.3%) beneficiaries and 36 (3.2%) husbands had professional education. Occupation wise, 959 (84%) of the beneficiaries were homemakers, 134 (11.7%) were in unskilled or semiskilled jobs, whereas only 35 (3.1%) were professionals or doing skilled jobs. Amongst husband of the beneficiaries, 702 (61.5%) were in unskilled or semiskilled jobs, whereas only 437 (38.3%) were in higher employment.

Table 2 shows household income where the mean was Rs.12101/- with a SD of Rs.6616/-. The range of household income was from Rs.1000/- to Rs.70000/- per

month. 309 (27%) of the couples using IUCD were having an income less than Rs.5000 per month.

**Table 1: Socio-demographic Data of the Beneficiaries and their husbands.**

Age groups	Husband	%	Wife	%
<20	2	0.2	62	5.4
21-25	130	11.4	444	38.9
26-30	471	41.3	417	36.5
31-35	323	28.3	146	12.8
>35	215	18.8	72	6.3
Education status	Husband	%	Wife	%
Illiterate	53	4.6	119	10.4
Primary	69	6.0	87	7.6
Secondary	493	43.2	489	42.9
Higher secondary	250	21.9	221	19.4
Graduate	222	19.5	182	16.0
Post graduate/ Professional	54	4.7	43	3.8
Occupation	Husband	%	Wife	%
Business	37	3.2	1	0.1
Professional	218	19.1	15	1.3
Service	39	3.4	12	1.1
Skilled	143	12.5	20	1.8
Semi-Skilled	622	54.5	131	11.5
Unskilled	80	7.0	3	0.3
Unemployed/ housewife	2	0.2	959	84.0
Total	1141	100.0	1141	100.0

**Table 2: Socio-demographic data of the beneficiaries.**

Religion	Beneficiaries	%
Hindu	894	78.4
Muslim	204	17.9
Others	43	3.8
Income	Beneficiaries	%
≤ 2000	73	6.4
2001-5000	431	37.8
5001-10000	426	37.3
>10000	207	18.1
NA	4	0.4

Table 3 shows age and gender of Last Child: 233 (20.4%) beneficiaries accepted before 6 months of the birth of their last child and 423 (37.2%) couples had opted for the IUCD after 2 years of birth of their last child. Of the 1136 who delivered, 2 beneficiaries had given birth to twin girls. So total children last born were 1138 of which 507 were girls and 631 (55.3%) were boys.

Table 4 shows the breakup of the children born to the beneficiaries against the number of male and female children born to them. Of the 1141 beneficiaries, 5 women who accepted IUCD had no children. Of the remaining 1136 beneficiaries, the total children born were

1950 (1946 singleton deliveries + 4 twins = 1950). Therefore, mean of total deliveries before inserting IUCD was 1.72 per beneficiary with a SD of 0.83. Of the 506 beneficiaries who had only one child, in 304 (60.1%) cases it was a male child, whereas in only 202 (39.9%) cases it was a female child. Also, of the 1141 beneficiaries, 330 couples having no male child opted for IUCD and 811 had at least one male child. Whereas, 430 beneficiaries had no female child and 711 had at least one female child.

**Table 3: Age and gender of last child.**

Age of last child	Beneficiaries	%
<1	447	39.3
1-2	192	16.9
2-5	287	25.3
>5	210	18.5
Total	1136	100
Gender last child	No. of children	%
Female	507*	44.3
Male	631	55.3
Na	5	0.4

\*Two beneficiaries had delivered female twins

**Table 4: Table showing total number of male and female children borne by the beneficiaries.**

Total children of each beneficiaries	Beneficiaries with male children			Beneficiaries with female children		
	0	≥ 1	Total	0	≥ 1	Total
0	5	-	5	5	-	5
1	202	304	506	304	202	506
2	105	372	477	108	369	477
3	13	115	128	11	117	128
>3	5	20	25	2	23	25
Total	330	811	1141	430	711	1141

**Table 5: The outcome of insertion and duration of menstruation from insertion of IUCD.**

Outcome of IUCD insertion	Beneficiaries	%
Uneventful procedure	1089	95.4
Expelled /removed & reinserted	20	1.8
Wasted	32	2.8
Duration from menstruation	Beneficiaries	%
≤ 10 days	990	94.8
> 10 days	59	5.2
NA*	92	-

\*lactational amenorrhoea / post MTP /Post delivery insertion

As seen in Table 5, 20 (1.8 %) IUCDs were expelled or had to be removed and reinserted, while 32 (2.8%) IUCDs had to be discarded (wasted). In 15 women the IUCDs were inserted post MTP whereas in 8 women, it was post delivery or LSCS. Amongst the 1049 beneficiaries who were not postpartum or lactating, 990

women accepted copper T within the prescribed duration of 10 days from the LMP. In 92 beneficiaries, the menstrual period could not be ascertained because of lactational amenorrhoea or post MTP or Post-delivery insertion. The mean of the day of insertion from the menstrual cycle is 5.6 days with a standard deviation of 6.2 days.

## DISCUSSION

### Age

923 (80.9%) of the beneficiaries and 603 (52.8%) of their husbands were less than 30 years of age. Spacing methods are most required when the age specific fertility rates are high which serves to keep the family size within desired limits. In some other studies too, most of the beneficiaries belonged to age group of 20-30 years.<sup>3-7</sup> Studies in other developing countries like Nigeria showed that majority of beneficiaries were more than 25 years of age.<sup>2,8,9</sup>

### Religion

894 (78.41%) of the couples who accepted the IUCD in this institution were Hindus followed by Muslims 204 (17.9%) and 43 (3.8%) being other religions. Hindus form 73.91 % of Thane's population, followed by Muslims with approximately 17.96% and about 4% formed by other religions.<sup>10</sup> The proportions of IUCD users in each religion matches that of Thane population, which shows that there is no preference or denial for Cu-T among any religion.

### Education

225 (19.7%) of the beneficiaries were educated to graduation or above that level while 276 (24.2%) of the husbands educated were graduates or educated above that level. 695 (60.9%) beneficiaries and 615 (53.92%) of their husbands were educated up to secondary school level or less than that. This shows that Cu-T as a spacing method is being used amongst couples throughout the spectrum of educational qualifications.

The difference between the literacy rates of beneficiaries and their husbands was statistically significant ( $\chi^2=27.4$ ,  $p < 0.001$ ). The difference between the higher education rates of beneficiaries and their husbands was also highly significant ( $\chi^2=6.65$ ,  $p < 0.01$ ). This highlights the difference in access to primary as well as higher education between both the genders in Indian society. Chng CL and Waiz NK have noted that promotion of women's education will improve the use of modern contraceptives in developing nations.<sup>11,12</sup>

### Occupation

48 (4.2%) of beneficiaries were in a skilled or professional occupation while 437 (38.3%) of the

husbands were in a skilled or professional occupation or having their own business. One of the beneficiaries owned a business.

The difference between the employment levels of beneficiaries and their husbands is statistically significant ( $p < 0.001$ ). 959 (84%) of the beneficiaries were homemakers. Other authors have also reported a high proportion of unemployed beneficiaries.<sup>3,5,7</sup> This highlights the fact that husbands are bread winners and if we consider the education status, the males enjoy a dominant position in the family. Hence our IEC efforts should be directed towards the husbands in addition to the beneficiaries. According to Renjhen, when fertility rates fall, more women join the labour force.<sup>13</sup> The reverse is also true. If more the women join labour force, the fertility rate will fall.

### **Income**

Though the income data has not been adjusted for inflation over ten years period, majority, i.e., 771 (76%) of the couples using IUCD were in the income range of Rs. 2001-10000 per month. In recent years, women from well-off households are taking contraceptive services from Public hospitals. However, most of the patients seeking health care from public sector hospitals come from lower income strata of the society, as they cannot afford private clinics. Therefore, public hospitals have a major role in infiltrating the society with contraceptive services.

According to Hameed W, women tend to get higher decision making power with higher literacy and superior socioeconomic status.<sup>14</sup> So apart from individual health education aimed towards women, long term changes in fertility pattern and contraceptive choices can only be achieved by improving education and socio-economic status of women.

### **Deliveries before IUCD insertion**

988 (86.6%) couples who used the IUCD had 2 or less children. In fact, 511 (44.8%) beneficiaries had one or less child. Cu-T 380A, the IUCD currently in use in the Reproductive and Child Health programme, which has an intrauterine effective span of 10 years, is well placed as a non-conventional contraceptive spacing method. In fact, 5 couples using IUCD before having any children is a good sign that IUCD can be an effective method to delay first pregnancy and to space out second one. A study by Biswas R, Nandy S, et al and Adegbola O, et al has shown similar results.<sup>5,8</sup> The difference between the couples having no male children and those having at least 1 male child opting for IUCD was statistically significant ( $p < 0.01$ ). More Couples want at least one male child before opting for IUCD.

### **Age of last child**

639 (56.2%) couples had opted for the IUCD within 2 years of birth of their last child. In fact, 275 (24.2%) couples using this method before 6 months of last pregnancy shows the use of Cu-T 380 A, as an effective long term spacing method.

### **Gender of last child**

631 (55.3%) couples opted for the IUCD after a male child while 505 (44.3%) couples opted for IUCD after a female child. This difference is not significant. However, if we refer to Table 3, of the 506 couples who have given birth to only one child, 304 (59.1%) cases it was a male child. This difference is statistically significant ( $z = 3.08$ ,  $p < 0.05$ ), which shows that more couples accept long term contraception after the birth of male child and would rather wait after the birth of female child.

Many authors from south East Asia and Africa have shown that the choice and timing of contraceptives can be affected by preference towards male child.<sup>5,6,14-20</sup> However, Asari Gopalkrishna noted that son preference decreases as the socio-economic status of women increases.<sup>21</sup>

### **IUCD insertion details**

In an apex institute, we got a wastage factor of 32 (2.8%) due to expulsion or other reasons. In 95.4% cases the procedure was uneventful, which is a satisfactory result.

### **Day of insertion**

Amongst the beneficiaries who were not pregnant or lactating, 990 (86.8%) of the beneficiaries inserted IUCD on or before the 10<sup>th</sup> day of the menstrual cycle (WHO).<sup>21</sup> This is important because during this period the beneficiary has the least chances of being pregnant and the uterus is not contracting.

## **CONCLUSION**

In this study, the use of Copper T by larger proportion of younger (<30 years of age) couples and before one year of birth of their first child and also with 2 or less children, is a positive sign that it is used and can be propagated to be used as a long term contraceptive for spacing and limiting their family. However, while doing the propaganda for its use we have to consider factors like domination of male member in family and his role in decision making and also the preference for male child in our society which affects contraceptive acceptance by women. The wastage of Copper-Ts is minimal. Also, maximum beneficiaries inserted C-T within stipulated period of safety and also the wastage of Copper T due to various reasons has shown to be satisfactory. Improving socioeconomic status of women will have long lasting

beneficial effect on contraceptive acceptance and population control.

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