

A Comparative Study of Intrauterine Contraceptive Device Utilization among Currently Married Women in a Rural Area of Rani Block and Urban Slums of Guwahati City

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Abstract

Background: The Government of India as a part of its commitment toward the provision of quality spacing services in family planning introduced copper T (Cu-T) 380A in 2002 with an effective protection for 10 years replacing the earlier Cu-T 200.

Study Design: A cross-sectional, descriptive type of observation study.

Objectives: Rural-urban comparison of Cu-T utilization status and to determine the relevant factors influencing it.

Materials and Methods: A cross-sectional study was carried out in a rural block (Rani Block) and urban slums of Guwahati city between the periods from August 2012 to July 2013. Sample size was determined by $4 PQ/L^2$, based on 43.3% prevalence of contraceptive practice by the modern method according to the National Family Health Survey-III, 2005-2006 of Assam and 20% permissible error was considered. So, the sample size was calculated as 130 eligible couples. So, 130 eligible couples from each area were studied for which 260 currently married women constitute the study population. Statistical analysis was done by applying Chi-square test.

Results: Cu-T acceptance was more in age group (25-29 years) in urban area (66.7%) than in rural area (33.3%). The level of education had no influence on Cu-T acceptance which was more in rural (16.2%) than in urban (7.9%). Cu-T acceptance was more among household workers both in the urban and rural area. Cu-T acceptance was more among women who earned Rs. 228-500 as per capita per month both in urban and rural. Spacing and postponement of pregnancy (66.7%) reasons for Cu-T acceptance. Desire for a child was the main ground for discontinuation of Cu-T. Majority of women had no complaints (77.8%) on Cu-T insertion, but few (22.2%) complained of spontaneous expulsion.

Conclusion: Organization of awareness camp in both rural and urban area with involvement of community influencers (Panchayat members health functionaries, ICDS workers) and behavior change communication through interpersonal communication is needed.

Key words: Contraceptive device, Intrauterine, Utilization

INTRODUCTION

In India, family planning program was started in the year 1952; the first country in the world to do so. Since 1977, the program was renamed as family welfare program and lastly

to the present reproductive and child health program. This change was made particularly to emphasize adoption of family planning methods voluntarily without compulsion and also to increase the acceptance of contraceptive methods by reproductive age group people.

Due to emphasis on sterilization, spacing methods have not been actively promoted nor are they easily available to those who are willing to adopt them. Despite the many advantages of the intrauterine contraceptive device (IUCD) as a method of family planning, it generally suffers from unpopularity worldwide, with the exception of few countries such as China, Egypt, Mexico, and Turkey. The

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scenario in India is the same with <2% of currently married women adopting the intrauterine device (IUD) as a method of contraception. In India, the use of IUD by contraceptive users among married women of reproductive age has come down from 13% in 1969 to 4% in 1979, although since the introduction of copper T (Cu-T), its use has slightly increased to 5.4% in 1984,¹ but the statistical data have further shown an increased in IUD use to 18.4% (Year book on Family Welfare Programme in India; 1997-1998). The Government of India as part of its commitment toward provision of quality spacing services in family planning introduced CU-T 380 A in 2002 with an effective protection for 10 years replacing the earlier CU-T, 200B. In India, only 1.8% of married women of reproductive age use IUCD's, despite the fact that the Government offers IUCD (CU-T) services free of cost, it remains largely underutilized.

Sociocultural and behavioral factors influence the decision to use as well as the selection of a contraceptive method, discontinuation of use of contraceptives, and reasons for discontinuation of a contraceptive. In India, through review of birth spacing methods, especially the IUCD is needed since the surveys show a high rate of discontinuation.

With this background, this study was conducted with an objective to compare the current status of IUCD (CU-T) utilization between the urban and rural areas and to determine the relevant factors influencing it among the currently married women (15-49 years) of Kamrup district in Assam.

MATERIALS AND METHODS

This community-based cross-sectional study was conducted in the urban and rural area of Kamrup District in Assam, during from August 2012 to July 2013. A total of 260 eligible couples were chosen by simple random sampling technique (130 from rural and 130 from urban). Sample size determined by $4 PQ/L^2$ based on 43.3% prevalence of contraceptive practice by modern method according to the National Family Health Survey-III, 2005-2006 of Assam and 20% allowable error was considered. The sample size was calculated as 130 eligible couples. So, 130 eligible couples from each area were studied for which 260 currently married women constitute the study population.

Sampling Procedure

The Town and Country Planning department Government of Assam, have identified 26 slums in Guwahati city. Out of these, 10 slums are selected using simple random sampling technique and from each slum, 13 respondents are selected by house to house visit to get the required sample size. Again, out of the 96 villages in Rani Block, 10

villages are selected by simple random sampling technique and then from each village, 13 respondents are selected by house to house visit to get the required sample size. As this is a comparative study between rural and urban slum population, the total respondents come to be 260. The study was approved by appropriate research body.

RESULTS

Total respondents were 260 currently married women. Out of which, 130 were from the rural and 130 women from urban area. The majority of the respondents were in the age group 25-29 years age group in urban area (66.7%) and slightly high in rural area (50%) in the age group 20-24 years (Table 1).

Cu-T utilization was greater among women who were just literate (33.3%), middle school (33.3%), and high school (33.3%) level in rural area, whereas in urban area, it was same among illiterate (33.3%), just literate (33.3%), and primary school (33.3%) level (Table 2). Again, CU-T acceptance was more among household workers (100% in urban and 83.3 in rural) (Table 3). Majority of women accepting CU-T had per capital income <Rs. 228 (33.3%) per capita per month and ranging from Rs. 228-700 (33.3%) per capita per month in the urban area, whereas in rural area, it was greater among women whose per capita income per month was greater among women whose per capita income per month was Rs. 228-500 (100%) (Table 4). From Table 5, in urban area, most of the eligible couple used Cu-T for <1 year (33.3%) and also for 2-3 years and above (33.3%), whereas in rural area, most of the married women used Cu-T for 2-<3 years (33.3%) and 3 years and above (50%). The reasons for accepting Cu-T among the married women were postponement of pregnancy (66.7%

Table 1: Distribution of wives according to age and IUCD practicing

| Age of wives (in years) | IUCD | | Total | |
|-------------------------|------------------|------------------|------------------|------------------|
| | Urban | Rural | Urban | Rural |
| 15-19 | - | 1 (100) 16.7 | 2 (100) 5.3 | 2 (100) 2.7 |
| 20-24 | 1 (33.3) 33.3 | 3 (30) 50 | 3 (100) 7.9 | 10 (100) 27.0 |
| 25-29 | 2 (25) 66.7 | 2 (16.7) 33.3 | 8 (100) 21.1 | 12 (100) 32.4 |
| 30-34 | - | - | 9 (100) 23.7 | 9 (100) 24.3 |
| 35-39 | - | - | 11 (100) 28.9 | 3 (100) 8.1 |
| 40-44 | - | - | 5 (100) 13.2 | 2 (100) 5.4 |
| Total | 3 (7.9) | 6 (16.2) | 38 (100) | 37 (100) |

Row wise percentage is in parenthesis; column wise percentage is shown below without parenthesis. IUCD: Intrauterine contraceptive device

Table 2: Distribution of the wives according to their literacy status and IUCD practicing

| Literacy status | IUCD | | Total | |
|----------------------|------------------|------------------|------------------|-----------------|
| | Urban | Rural | Urban | Rural |
| Illiterate | 1 (5) 33.3 | - | 20 (100) 52.6 | - |
| Just literate | 1 (14.3) 33.3 | 2 (28.6) 33.3 | 7 (100) 18.4 | 7 (100) 18.9 |
| Primary school | 1 (20) 33.3 | - | 5 (100) 13.2 | 4 (100) 10.8 |
| Middle school | - | 2 (40) 33.3 | 3 (100) 7.9 | 5 (100) 13.5 |
| High school | - | 2 (22.2) 33.3 | 1 (100) 2.6 | 9 (100) 24.3 |
| HSLC | - | - | - | 8 (100) 21.6 |
| HS | - | - | - | 4 (100) 10.8 |
| Graduation and above | - | - | 2 (100) 5.3 | - |
| Total | 3 (7.9) | 6 (16.2) | 38 (100) | 37 (100) |

Row wise percentage is in parenthesis; column wise percentage is shown below without parenthesis. IUCD: Intrauterine contraceptive device

Table 3: Distribution of the wives according to their occupation and IUCD practicing

| Occupation | IUCD | | Total | |
|-------------------------|----------------|------------------|------------------|------------------|
| | Urban | Rural | Urban | Rural |
| Household work | 3 (9.7) 100 | 5 (19.2) 83.3 | 31 (100) 81.6 | 26 (100) 70.3 |
| Daily way | - | - | 3 (100) 7.9 | 3 (100) 8.1 |
| Part time domestic work | - | - | 1 (100) 2.6 | 2 (100) 5.4 |
| Service | - | - | 2 (100) 5.3 | 1 (100) 2.7 |
| Business | - | 1 (20) 16.7 | 1 (100) 2.6 | 5 (100) 13.5 |
| Total | 3 (7.9) | 6 (16.2) | 38 (100) | 37 (100) |

Row wise percentage is in parenthesis; column wise percentage is shown below without parenthesis. IUCD: Intrauterine contraceptive device

in urban and 66.7% in rural), spacing (66.7% in urban and 66.7% in rural), and maternal health (33.3% in urban and 16.7% in rural) (Table 6). Discontinuation of Cu-T among the married women was mostly due to want of a child (55.6% in urban and 60% in rural) and problems faced due to Cu-T use (44.4% in urban and 40% in rural) (Table 7).

DISCUSSION

It is revealed from the Table 1 that in urban slums, majority of the respondents were in the age groups 25-29 years (66.7%), whereas in rural area, it was slightly high (50%) in the age group 20-24 years. Contraceptive acceptance increases with the increase in the age groups of the wives, which was shared by Zutshi and Dhar (1970),² Raju *et al.* (1994),³ and Singh and Benera (1999).⁴ In Table 2, it is

Table 4: Distribution of eligible couples according to per capita income per month and IUCD practicing

| Per capital per month (Rs.) | IUCD | | Total | |
|-----------------------------|------------------|-----------------|------------------|------------------|
| | Urban | Rural | Urban | Rural |
| <228 | 1 (33.3) 33.3 | - | 3 (100) 7.9 | 2 (100) 5.4 |
| 228-500 | 1 (6.3) 33.3 | 6 (23.1) 100 | 16 (100) 42.1 | 26 (100) 70.3 |
| 501-700 | 1 (10) 33.3 | - | 10 (100) 26.3 | 2 (100) 5.4 |
| 701-900 | - | - | 5 (100) 13.2 | 3 (100) 8.1 |
| >901 | - | - | 4 (100) 10.5 | 4 (100) 10.8 |
| Total | 3 (7.9) | 6 (16.2) | 38 (100) | 37 (100) |

IUCD: Intrauterine contraceptive device

Table 5: Distribution of eligible couples currently practicing contraceptive methods in relation to duration of use

| Duration of use in years | IUCD | | Total | |
|--------------------------|----------|----------|-----------|-----------|
| | Urban | Rural | Urban | Rural |
| <1 | 1 (33.3) | 1 (16.7) | 4 (10.5) | 5 (13.5) |
| 1-<2 | - | - | 1 (2.6) | 2 (5.4) |
| 2-<3 | 1 (33.3) | 2 (33.3) | 3 (7.9) | 4 (10.3) |
| 3 and above | 1 (33.3) | 3 (50) | 30 (78.9) | 26 (70.3) |
| Total | 3 (100) | 6 (100) | 38 (100) | 37 (100) |

IUCD: Intrauterine contraceptive device

seen that Cu-T utilization was greater among women who were just literate (33.3%), middle school (33.3%), and high school (33.3%) in rural area, whereas in urban area, it was same (33.3%) among illiterate, just literate, and primary school level literate women. The study findings hold good with the observations of Mazumdar (1955),⁵ Chandra (1959),⁶ Ranajit and Seal (1974),⁷ Ghosh and Mohapatra (1993),⁸ Upadhyay and Sharma (1995),⁹ Bhuyan (1996),¹⁰ and Sharma *et al.* (1997),¹¹ wherein it was that the female literacy was positively and significantly associated with higher adoption of contraceptive methods. Table 3 shows that both in rural and urban area the acceptance of Cu-T was more among household workers (100% in urban slums and 83.3% in rural area). However, observations by Raju *et al.* (1994)³ and Lingaraju (1998)¹² contradicted the present study finding by stating that contraceptive acceptance was high in women who worked outside their homes (80%) than the housewives (60%). It is evident from Table 4, majority of women accepting Cu-T had per capital income <Rs. 228 (33.3%) per capita per month in urban area, whereas in rural area, it was greater among women whose per capita income per month was Rs. 228-500 (100%). Various study findings by Gandhi *et al.* (1969)¹³ stated that majority of the contraceptive acceptors belonged to the lower income group, whereas Awasthi (1973)¹⁴ stated that

Table 6: Distribution of eligible couples according to reasons for practicing IUCD

| Reasons | IUCD | | Total | |
|--|-------------|-------------|-----------|-----------|
| | Urban (N-3) | Rural (N-6) | Urban | Rural |
| Postponement of pregnancy | 2 (66.7) | 4 (66.7) | 13 (34.2) | 14 (37.8) |
| Spacing | 2 (66.7) | 4 (66.7) | 7 (18.4) | 12 (32.4) |
| Limiting family size | - | - | 15 (39.5) | 14 (37.8) |
| Desired number of children achieved | - | - | 19 (50) | 17 (45.9) |
| Maternal health | 1 (33.3) | 1 (16.7) | 4 (10.5) | 5 (13.5) |
| Children's health | - | - | 3 (7.9) | 3 (8.1) |
| Poor socioeconomic condition | - | - | 18 (47.4) | 16 (43.2) |
| Money incentive | - | - | 14 (44.7) | 15 (40.5) |
| Cheap, safe, convenient | - | - | 3 (7.8) | 4 (10.8) |
| Afraid of approved contraceptive methods | - | - | 7 (18.4) | 4 (10.8) |

Row wise percentage is in parenthesis. IUCD: Intrauterine contraceptive device

Table 7: Distribution of eligible couples by reasons for discontinuation of IUCD

| Reasons for discontinuation | Ever practicing eligible couples IUCD uses | | Total | |
|-----------------------------|--|--------------|--------------|--------------|
| | Urban (N-9) | Rural (N-10) | Urban (N-24) | Rural (N-29) |
| Want of child | 5 (55.6) | 6 (60) | 10 (41.7) | 11 (37.9) |
| Dissatisfaction | - | - | 5 (20.8) | 7 (24.1) |
| Disinterest | 1 (11.1) | 1 (10) | 6 (25) | 7 (24.1) |
| Problems faced | 4 (44.4) | 4 (40) | 15 (62.5) | 19 (65.5) |
| Desire for son | - | - | 1 (4.2) | 1 (3.4) |
| Opposition from husband | 1 (11.1) | 1 (10) | 1 (4.2) | 1 (3.4) |
| Opposition from wife | - | - | 4 (16.7) | 5 (17.2) |

Column wise percentage is in parenthesis. IUCD: Intrauterine contraceptive device

60% of the contraceptive acceptors belonged to families with monthly income of Rs. 201-400. However, Rao (1976),¹⁵ Kaur (1976),¹⁶ Zutshi and Dhar (1977),² Rele and Kanitkar (1980),¹⁷ Upadhyay and Sharma (1995),⁹ Sharma *et al.* (1997),¹¹ and Khokhar *et al.* (2000)¹⁸ stated that the practice of contraceptive was significantly associated with the income status of the family it. Family planning practice was more in higher income group than lower income group. From Table 5, it is seen that, in urban area, the most of the eligible couples used Cu-T for less than 1 year (33.3%) and also for 2-3 years and above (33.3%), whereas in rural area, the most of the married women used Cu-T for 2-<3 years (33.3%) and 3 years and above (50%). Sehgal *et al.* (1990)¹⁹ observed that 92.5% of the IUD acceptors used for 3 years and 7.5% for 2-4 years, whereas Rajeswari and Hasalkar (1996)²⁰ observed that majority of the IUD acceptors had used it for more than 2 years. Guharaj and Prasad (1970)²¹ revealed that 93.8% and 6.2% used IUDs for 6 months and 8 months, respectively. It is evident from Table 6, in rural area, the most noteworthy among the reasons for practicing IUCD was postponement of pregnancy (66.7%) and in urban area, it was 66.7%. Other reasons include spacing (66.7% in urban and 66.7% in rural) and maternal health (33.3% in urban and 16.7% in rural). Some authors, viz., Gandhi *et al.* (1969)¹³ Dutta and Sarma (1988)²² have laid

emphasis on other reasons as economics conditions and maternal health; Kaur (1976)¹⁶ for children's education; Zutshi and Dhar (1977)² cited 54.16% preferred oral pills for convenience; finally, Islam and Islam (1998)²³ for happiness of family (81.4%). In Table 7, discontinuation of Cu-T among the married women was mostly due to want of a child (55.6% in urban and 60% in rural) and problems faced due to Cu-T use (44.4% in urban and 40% in rural). The NFHS II (1998-99)²⁴ in Assam and Singh and Benera (1999)⁴ in slums of Delhi cited want of child (29% and 44%, respectively) as the reason for discontinuation, main reasons for IUD discontinuation cited by Chandra (1996)²⁵ were renewal (31.3%) followed by side effects (30.9%), Adarsh and Lal (1979)²⁶ medical reason (20%), want of child (4.5%) and Sehgal *et al.* (1990)¹⁹ non-medical reason (58.2%) and family members opposition (40%).

CONCLUSION

Majority of the respondents in urban area were in the age groups 25-29 years (66.7%), whereas in rural area, it was slightly high (50%) in the age group 20-24 years. Cu-T utilization was greater among women who were just literate (33.3%), middle school (33.3%), and high school (33.3%) in rural area, whereas in urban area, it was same (33.3%) among illiterate, just literate, and primary school level literate women. Both in rural and urban areas the acceptance of Cu-T was more among household workers (100% in urban slums and 83.3% in rural area). The majority of women accepting Cu-T had per capital income <Rs. 228 (33.3%) per capita per month in urban area, whereas in rural area, it was greater among women whose per capita income per month was Rs. 228-500 (100%). In urban area, most of the eligible couples used Cu-T for <1 year (33.3%) and also for 2-3 years and above (33.3%), whereas in rural area, most of the married women used Cu-T for 2-<3 years (33.3%) and 3 years and above (50%). In rural area, the most noteworthy among the reasons for practicing IUCD was postponement of pregnancy (66.7%), and in urban area, it

was 66.7%. Other reasons include spacing (66.7% in urban and 66.7% in rural) and maternal health (33.3% in urban and 16.7% in rural). Discontinuation of Cu-T among the married women was mostly due to want of a child (55.6% in urban and 60% in rural) and problems faced due Cu-T use (44.4% in urban and 40% in rural).

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