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Original Research Article

## A cross sectional study on willingness and acceptability: PPIUCD by primipara mothers at a tertiary care hospital, Tamil Nadu

T. K. Shaanthy Gunasingh, T. S. Meena, R. Mothilal\*

Department of Family Welfare, Government Kilpauk Medical College Hospital, Chennai, Tamil Nadu, India

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**\*Correspondence:**

Mr. R. Mothilal,

E-mail: [mothilal15661@gmail.com](mailto:mothilal15661@gmail.com)

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### ABSTRACT

**Background:** Postpartum intrauterine contraceptive device is a postpartum family planning method which provides spacing to the next pregnancy and also it helps to avoid unwanted / unintended pregnancy during postpartum period. Our aim was to study the willingness and acceptability of Postpartum intrauterine contraceptive device among primiparaous women and compare them as a factor of route of insertion (vaginal versus caesarean).

**Methods:** A cross sectional analytical study was done in a tertiary care teaching institution to know the willingness and acceptance among primiparaous delivery (either vaginal and caesarean deliveries) for the period of three months using the hospital records that a total number of 587 primiparaous deliveries and among them 433 mothers had Postpartum intrauterine contraceptive device over the three months period, were taken as a secondary data and studied for their willingness and acceptance for Postpartum intrauterine contraceptive device.

**Results:** 82.8 % of primiparaous women were showing willingness for Postpartum intrauterine contraceptive device and 73.8 % of them had Postpartum intrauterine contraceptive device insertion. Postpartum intrauterine contraceptive device insertions were more in caesarean deliveries than in vaginal deliveries of mothers with one child.

**Conclusions:** Postpartum intrauterine contraceptive device is a strong weapon in the family planning and should be encouraged in both vaginal and caesarean deliveries. The acceptability of Postpartum intrauterine contraceptive device in women with one child was effective and statistically significant at p value is < 0.05.

**Keywords:** Contraceptive device, Postpartum, Willingness

### INTRODUCTION

Contraception methods by definition mean to prevent unwanted pregnancy by temporary or permanently.<sup>1</sup> Intrauterine contraceptive device like CuT- 380A provides contraception up to 10 years.<sup>1</sup> India is second largest populated country in the world with 121 million according to 2011 census.<sup>1</sup>

It contributes 17.5% of world's population by adding around 25 million births every year.<sup>1</sup> A 65% of women are having unmet need of family planning in the first year of post-partum period.<sup>1</sup> Lack of information and fear of complications are the common reasons for unmet need.<sup>1</sup>

Till 2 years after delivery, a woman will not be ready physically to conceive and delivery. Studies were found that conceiving within two years leads to adverse events like abortion, premature labour, postpartum haemorrhage, low birth weight babies, foetal loss sometimes maternal deaths. Hence advising and practicing contraception with in postpartum period good for women health.<sup>1</sup>

Disseminating family planning methods during postpartum period will be convenient to practice and easy to follow up for complications and adverse events.<sup>1</sup> Intra uterine contraceptive device is the most commonly used reversible method of contraception worldwide with about 127 million current users.<sup>1</sup>

The objective of the study was to assess the willingness for Postpartum intrauterine contraceptive device among primi paraous women from January 2017 to March 2017 at Government Kilpauk Medical College Hospital, Chennai-10, Tamil Nadu, India. To study the attributes, Postpartum intrauterine contraceptive device insertions among primi paraous women and mode of delivery from January 2017 to March 2017 at Government Kilpauk Medical College Hospital, Chennai-10.

**METHODS**

A Cross sectional study was conducted among postpartum women with one child at Government Kilpauk Medical College and Hospital, Chennai-10. The study population of 587 primi paraous women who delivered at maternity ward GKMCH during the study period. Counselling was given about postpartum intrauterine contraceptive device during antenatal and in labour ward. After obtaining consent, Cu T 380A was inserted in 433 primi paraous women in three months period from January 2017 to March 2017.

**Data collection**

Postpartum intrauterine contraceptive device consent was filled to know the willingness and acceptability. The acceptance of postpartum intrauterine contraceptive device details was recorded in postpartum intrauterine

contraceptive device register and the not willing cases were also recorded in postpartum intrauterine contraceptive device not willing register were used as a secondary data.

**Table 1: Mode of delivery versus awareness.**

Mode of Delivery	Nos.	Awareness	%
Vaginal Delivery	239	232	39.5
Caesarean section	348	302	51.5
Total	587	534	91.0

The Table 1 shows 91% of primi paraous women were aware of postpartum intrauterine contraceptive device insertion immediately after delivery and it reveals that the awareness of postpartum intrauterine contraceptive device insertion after delivery was more in caesarean than in vaginal deliveries.

The Table 2 shows 26.2% primi paraous were not accepted Postpartum intrauterine contraceptive device after delivery.

There exists a difference between mode of delivery and not willing for postpartum intrauterine contraceptive device, acceptance of postpartum intrauterine contraceptive device after delivery was statistically significant at p-value is <0.00001.

**Table 2: Mode of delivery versus willingness and acceptance.**

Mode of Delivery	Willing, accepted	Willing, not accepted	Not willing	Total
Vaginal delivery	203 (34.6%)	7 (1.2%)	29 (4.9%)	239 (40.7%)
Caesarean section	230 (39.2%)	46 (7.8%)	72 (12.3%)	348 (59.3%)
Total	433 (73.8%)	53 (9.0%)	101 (17.2%)	587 (100%)

**Table 3: Mode of delivery versus acceptance.**

Mode of Delivery	Accepted	Not accepted	Total
Vaginal delivery	203 (34.6%)	36 (6.1%)	239(40.7%)
Caesarean section	230 (39.2%)	118 (20.1%)	348 (59.3%)
Total	433 (73.8%)	154 (26.2%)	587 (100%)

The Table 3 shows 59.3% caesarean and 40.7% vaginal deliveries occurred in primi paraous and 73.8% of them accepted Postpartum intrauterine contraceptive device immediately after delivery.

The Table 3 reveals that women undergoing caesarean section were comparatively more accepting Postpartum intrauterine contraceptive device than in those who delivered by vaginal delivery among primi paraous.

Table 4 shows the reasons for not willing for accepting Postpartum intrauterine contraceptive device after delivery among primi paraous women.

The proportion that 0.406 indicates that mothers want interval Cu T. 0.178 husbands not willing and 0.148 stated willing for condom and barrier method. Patient, Partner and relatives (attender) stated 0.13. Husband in abroad 0.01%, Husband dead 0.01 and Various medical reasons 0.118.

**Table 4: Not willing for PPIUCD acceptance.**

Reasons	Vaginal	Caesarean	Deliveries	%
Husband not willing	5	13	18	17.8
Husband and attender not willing	1	2	3	3.0
Patient not willing for Cu T	2	3	5	5.0
Attender not willing	2	3	5	5.0
willing for condom/ barrier method	4	11	15	14.9
wants of interval Cu T	13	28	41	40.6
husband in abroad	0	1	1	1.0
Patient Husband death	0	1	1	1.0
PPH	1	3	4	4.0
PROM > 18 hours	0	2	2	2.0
PROM (twins) breach	0	2	2	2.0
PROM with oblique live	0	1	1	1.0
Heart Disease	1	0	1	1.0
Maternal fever	0	2	2	2.0
Total	29	72	101	100.0

### Statistical analysis

The Statistical tool was used for discrete variable. The Proportion was used for the various reasons for not accepting Postpartum intrauterine contraceptive device, the Rate was used for calculating Postpartum intrauterine contraceptive device in respect of variables of awareness, willing and accepted, willing and not accepted, not willing and in mode of delivery. The Ratio was used between acceptance and non-acceptance in respect of primiparaous women. A two tailed Chi-square test was used between mode of delivery and acceptability of Postpartum intrauterine contraceptive device in primiparaous women to determine the difference/independent of attributes of variables at the level of significance 0.05 and degrees of freedom = 1. The z- test was used to estimate willingness for Postpartum intrauterine contraceptive device among primiparaous women. Software was used for statistical analysis.

### Z Test

#### Hypothesis: I

H0: =90% of mothers with one child, willing for PPIUCD

H1: <90% of mothers with one child, willing for PPIUCD

Formula:  $Z = \frac{p - P_0}{\sqrt{P_0Q/N}}$

Where p is the proportion stated in the sample, P<sub>0</sub> is the proportion stated in the null hypothesis; N is the sample size and Q = 1-P.

Calculation:  $p = 486/587 = 0.8279$ ;  $P_0 = 90\% = 0.90$

$Z = \frac{0.8279 - 0.90}{\sqrt{0.90 \times 0.10 / 587}} = -5.823$  and P value = <0.00001.

Since the calculated absolute z value 5.823 is greater than 1.64 at (0.05) level of significance, we can reject the null hypothesis. Hence, the alternative hypothesis that less than 90% of mothers with one child, willing for PPIUCD was correct and statistically significant since P is < 0.05.

Therefore, 82.8 % of mothers with one child showing willingness for postpartum intrauterine contraceptive device in the sample was correct.

### Chi-square test

#### Hypothesis: II

Ho: The attributes, Postpartum intrauterine contraceptive device insertions among primiparaous women and mode of delivery are independent

Ha: The attributes that Postpartum intrauterine contraceptive device insertions among primiparaous women and mode of delivery are not independent.

There exist an association between Postpartum intrauterine contraceptive device acceptance and non-acceptance and mode of delivery in primiparaous women and was statistically significant at p-value is 0.00001.

As the calculated chi-square value of 26.0 is greater than the table chi-square value of 3.84, the null hypothesis can be rejected and hence the alternative hypothesis that the Postpartum intrauterine contraceptive device insertion in women with one child and mode of delivery that vaginal and Caesarean section deliveries are dependent and statistically significant at p-value is <0.05 level of significant and degrees of freedom=1. In other words, the Postpartum intrauterine contraceptive device insertion in women with one child was effective.

## RESULTS

In present study, total number of women who had delivered from January 2017 to March 2017 accounted to 587 that the mode of deliveries namely caesarean section and vaginal deliveries were 59.3% and 40.7%

respectively among primiparaous deliveries. Out of the primiparaous women 91 % were aware of postpartum intrauterine contraceptive device and 82.8% of them stated willingness to Postpartum intrauterine contraceptive device. The women had Postpartum intrauterine contraceptive device insertion with primiparaous was 73.8%. The acceptance and non-acceptance was 3:1 ratio in respect of primiparaous women. It was found that Postpartum intrauterine

contraceptive device insertions were more in caesarean than in vaginal deliveries of primiparaous women. In our study, 82.8% of primiparaous women had given willingness for Postpartum intrauterine contraceptive device was correct. The Postpartum intrauterine contraceptive device insertion in women with one child was effective and it was statistically significant at p-value is <0.05.

**Table 5: Mode of delivery versus acceptance.**

Mode of Delivery	Accepted	Not accepted	Total	Chi-square test
Vaginal delivery	203 (34.6%)	36(6.1%)	239(40.7%)	Chi-square is 26.0023 p- value is < 0.00001
Caesarean section	230(39.2%)	118(20.1%)	348(59.3%)	
Total	433(73.8%)	154(26.2%)	587(100%)	

## DISCUSSION

### Acceptance

In present study, the acceptance of postpartum intrauterine contraceptive device in primiparaous was 73.8%. Jairaj S et al found in the study conducted at a tertiary care hospital, Telengana where the PPIUCD acceptance with one child was 25.9%.<sup>1</sup> Kanhere A et al found in the study conducted at a tertiary care hospital, Central India where the PPIUCD acceptance was 48%.<sup>2</sup> Barala S et al found in the study conducted at RNT Medical College, Udaipur, Rajasthan where the acceptance rate of PPIUCD was 31.6%.<sup>3</sup>

In the study conducted by Kanmani K et al in Vellore Medical College, Tamil Nadu where it was found that postpartum intrauterine contraceptive device acceptance 87.8% in primipara.<sup>4</sup> Kharkwal S et al conducted study in MLB medical college, Jhansi, Uttar Pradesh, India where it was found that 42.15% had postpartum intrauterine contraceptive device in primipara.<sup>5</sup> Maluchuru S et al found in the study conducted at Guntur Medical College Hospital where the PPIUCD acceptance with one child was 31.5%.<sup>6</sup> The most common reasons behind the acceptance of Postpartum intrauterine contraceptive device was PPFPP counselling day by day by RMNCH and doctors to make the women for willing to accept Postpartum intrauterine contraceptive device and awareness of paturients in primiparaous and frequent review meetings conducted to medical officers by both district and state authorities.

### Reasons for not accepting PPIUCD

Jairaj S et al found in their study, majority (63.97%) were not accepting because they were interested in other family welfare methods followed by 17.17% were told partner was not interested and religious base 4% were declined IUCD, just 1% had fear of complications and

Partner or relatives were making decision.<sup>1</sup> Kanhere AV et al, found 52% want another method of contraception, 13% had fear of complication, 9% was family pressure, 5% was future fertility, 14% wants no contraception and 10% not specified any reasons to refusal of IUCD.<sup>2</sup> Barala S et al found in their study, 13.8% wants another method, 13.9% convinced with interval IUD, 27.8% had fear of complications, 28.2% not accepted due to family pressure, myth of not getting pregnant early was 25% and 1.8% of religious belief.<sup>3</sup> Maluchuru S et al found in their study, majority were preferred another family planning method (46.68%) followed by fear of complications (32.89%) and due to family refusal (20.42%).<sup>6</sup> Landge JA et al in their study found reasons for not accepting contraceptives were namely no acceptance by husband and family members 47%, religious belief 38%, Fear of side effect 8.4%, Incomplete family 4.8% and No need 1.3%.<sup>7</sup>

In present study, we found majority (55.4%) were not accepting because they were interested in other method of contraception followed by 17.8% were told partner was not interested. Partner or family members were playing important role in decision making (13%). Husband in abroad 1%, husband dead 1% and the remaining 11.8% medical complications.

### Mode of delivery

Jairaj S et al found in the study conducted in Gandhi Hospital, a tertiary care teaching hospital attached to Gandhi Medical College, Secunderabad, Telangana, India where it was found that the Postpartum intrauterine contraceptive device acceptors were high in caesarean section than in vaginal deliveries.<sup>1</sup>

In present study, the acceptance of Postpartum intrauterine contraceptive device was comparatively high in caesarean section than in vaginal deliveries.

### Willingness

Demographic and Health Survey show that 40 percent of women in the first year postpartum intend to use a family planning (FP) method.<sup>2</sup> In present study, it was 82.8%. The most common reasons were the awareness, day by day counselling by RMNCH counsellor, motivation, literacy level of female, decrease in infant mortality rate, increase in life expectancy at birth and change in attitude.

### Awareness

Barala S et al found in the study conducted in RNT Medical College, Udaipur, Rajasthan where the awareness was only 33.5%.<sup>3</sup> In DLHS-4 survey report for Tamil Nadu shows that the awareness of IUCD among mothers with one child was 56.3%.<sup>8,9</sup> Landge JA et al found in the study conducted at urban slum area, Mumbai, Maharashtra where the awareness of IUCD among the mothers was 67.6%.<sup>7</sup> In present study 91% of primiparaous women were aware of postpartum intrauterine contraceptive device. The most common reasons behind the awareness was hospital settings.

### CONCLUSION

Postpartum intrauterine contraceptive device is a strong weapon in the family planning and should be encouraged in both vaginal and caesarean deliveries. The willingness for Postpartum intrauterine contraceptive device among primiparaous women was less than 90% and was statistically significant at p-value is <0.05. The attributes that Postpartum intrauterine contraceptive device insertion in primiparaous women and mode of delivery were dependent and was statistically significant at p-value is <0.05 and the acceptability of postpartum intrauterine contraceptive device in women with one child was effective.

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