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Research Article

## Study on the acceptance, complications and continuation rate of post-partum family planning using the post placental intrauterine contraceptive device among women delivering at a tertiary care hospital

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### ABSTRACT

**Background:** Post placental intrauterine contraceptive device use in India showed that most women were satisfied with their choice of immediate insertion of an IUCD and the rates of complications were relatively low. The large proportion of women accepting the method to limit future childbearing indicates the important place post placental IUCD hold. This study was done to evaluate the acceptance of intrauterine contraceptive device as an immediate family planning method following delivery. The complications associated with it were identified and continuation rates were assessed.

**Methods:** Women admitted for delivery in a tertiary care hospital were included in the study. Only women who fulfilled the medical eligibility criteria were included in the study.

**Results:** A total of 4209 women were counseled of which 780 (18.5%) women accepted the method, 3429 declined. Out of the 780 cases, 764 came for follow up, and 16 were lost to follow up, spontaneous expulsion was seen in 2 (0.2%) cases, removal was done on request in 1 case and continuation was seen in 761 (97.56%) women.

**Conclusions:** The Post placental intrauterine contraceptive device is safe to insert immediately after delivery. It has good acceptance with minimal expulsion and very high continuation rates.

**Keywords:** Acceptance, Complications, Post placental intrauterine contraceptive

### INTRODUCTION

The myths related to the intrauterine contraceptive device in our country have pushed the family planning program to the back seat. But in the past couple of years, women especially from the rural background have realized the importance of family planning and its role in improving the health of the family at large. Educating the women at different levels by various grass root workers have helped to a large extent in diluting these myths and thus encouraging these women to adopt various family planning methods especially the intrauterine contraceptive device and thus increasing its acceptance.

Postpartum period is one of the vulnerable periods where health needs of these women as well as the risk of a future unwanted pregnancy should be taken care of.

### METHODS

This is a hospital based analytical study conducted at a tertiary care hospital for women and children. It was conducted from November 2013 to November 2014. Study included 4209 pregnant women who were admitted and delivered either by normal vaginal or instrumental delivery or caesarean section. Study included those pregnant women who fulfilled the medical eligibility

criteria. All the women who were willing to come back for follow-up were included in the study. They were followed up for three months. In all these women, copper T380A was used.

### Exclusion criteria

- 1) Ruptured membranes of >24 hours prior to delivery.
- 2) Uterine anomalies.
- 3) Active lower genital tract infections.
- 4) Postpartum hemorrhage requiring additional management.

### Types of insertion

**Post placental:** Post placental insertion of the intrauterine contraceptive device is done immediately following delivery of the placenta, typically within 10 minutes. The woman is on the delivery table. The insertion is done immediately following the active management of the third stage of labor and delivery of the placenta. Post placental insertion can be done by two techniques:

- a) Instrumental insertion using the Kelly's ring forceps, in which the intrauterine contraceptive device is held by the forceps without a lock and inserted up to the fundus of the uterus and then it, is released.
- b) Manual post placental insertion where the intrauterine contraceptive device is held in the providers hand and inserted up to the uterine fundus and placed there.

**Intracaesarean:** The intrauterine contraceptive device is introduced through the uterine incision during a caesarean section and placed at the uterine fundus and the uterine incision closed.

### Follow up

Discharge card was given to the patient with information about the type of intrauterine contraceptive device inserted, date of insertion, date of postpartum follow-up visit and also to come whenever the following complaints are present such as foul smelling vaginal discharge, excessive bleeding, lower abdominal pain associated with chills and fever and when there is suspicion that the device has fallen out. At six weeks follow up the following observations were made

1. Her satisfaction with the method.
2. A pelvic examination to look for the visibility of the strings and to cut them if the woman finds them uncomfortable.
3. Rule out conditions like sexually transmitted infections, pelvic inflammatory disease, pregnancy, expulsion of the intrauterine contraceptive device
4. If the immediate postpartum intrauterine contraceptive device has been expelled, offer the woman another contraceptive method or plan to

insert another intrauterine device as for the interval procedure if she wishes.

5. If the postpartum intrauterine contraceptive device is in place and the woman has no problem, no other follow-up visits are required. She was advised to return for removal as desired or at the end of the recommended period.

## RESULTS

In the present study highest acceptance was in the age group above 30 years (29.89%) and primigravidas (25.84%). Literacy contributed to increased acceptance (32.67%). Hindus had a higher percentage of acceptances (22.26%). Majority of employed women had higher acceptance as they understood the importance of birth spacing (44.03%). Demographic factors play a statistically significant role in acceptance of PPIUCD (P value <0.05) (Table 1). Acceptance was more in women undergoing caesarean section (98.16%) which is statistically significant (P value <0.05) (Table 2).

Complications such as pain (0.64%) bleeding (0.2%) and string problems (0.76%) were minimal (Table 3). Majority of women attended follow up at 6 weeks to confirm that the IUCD is in place (97.94%) (Table 4). Expulsion rates in this study were negligible (0.2%) (Table 5) and continuation rates were 97.56% (Table 6). There were no cases of perforation.

**Table 1: Demographic factors.**

Parturient	Total counselled No. (%)	Accepted No. (%)	Declined No. (%)
<b>Age</b>			
<20 years	1402 (33.30)	73 (5.20)	1329 (94.79)
20-29 years	2342 (55.64)	568 (24.25)	1774 (75.74)
>30 years	465 (11.04)	139 (29.89)	326 (70.10)
<b>Parity</b>			
Primi	2805 (66.64)	725 (25.84)	2080 (74.15)
Gravida II	1364 (32.40)	49 (3.59)	1315 (96.40)
Gravida III or >	40 (0.95)	6 (15)	34 (85)
<b>Literacy</b>			
Illiterate	1026 (24.37)	92 (8.96)	934 (91.03)
Primary school	1512 (35.92)	142 (9.39)	1370 (90.60)
Secondary school	1671 (39.70)	546 (32.67)	1125 (67.32)
<b>Religion</b>			
Hindu	2848 (67.66)	634 (22.26)	2214 (77.73)
Others	1361 (32.33)	146 (10.72)	1215 (89.27)
<b>Occupation</b>			
Employed	788 (18.72)	347 (44.03)	441 (55.96)
Unemployed	3421 (81.27)	433 (12.65)	2988 (87.34)

Chi-square 'P' value <0.05 (Significant)

**Table 2: Timing of counselling and acceptance.**

Period	Total counselled No. (%)	Accepted No. (%)	Declined No. (%)
Antenatal	2244 (53.31)	148 (6.59)	2096 (93.40)
At admission	1364 (32.40)	42 (3.07)	1322 (96.92)
Early labor			
Prior to LSCS	601 (14.27)	590 (98.16)	11 (1.83)

Chi-square 'P' value <0.05 (Significant)

**Table 3: Complications.**

Period	Pain No. (%)	Bleeding No. (%)	Infection No. (%)	Perforation	String problems No. (%)
Immediate <48 hours	2 (0.2)	Nil	Nil	Nil	Nil
At 6 weeks	5 (0.64)	2 (0.2)	1 (0.1)	Nil	6 (0.76)

**Table 4: Follow up.**

Follow up	Number of cases (%)
At 6 weeks	764 (97.94)
Lost to follow up	16 (2.05)

**Table 5: Expulsion rates.**

Period	No. of cases (%)
Within 1 week	Nil
At 6 weeks	2 (0.2%)

**Table 6: Continuation rate.**

Total period users	Continuation No. (%)	Request for removal (%)
780	761 (97.56%)	1 (0.13%)

## DISCUSSION

With increasing number of women electing to give birth in health institutions, the Government of India decided to strengthen PPF and to introduce PPIUCD services in a phased manner, with the first batch of clinician trainings, in 2009. A national training center was established at Safdarjung Hospital in New Delhi, as well as three regional training centers in Mumbai, Jabalpur, and Lucknow in 2009-2010. The provision of PPIUCDs is being rapidly scaled up in India, with facilities in at least nineteen states offering the method in 2013. Previously, concerns about the PPIUCD focused on high expulsion rates. Studies published in the nineties and early 2000 reported rates of about 9-13%.<sup>1-3</sup> However, lower

expulsion rates have been reported more recently with improvements in insertion technique.<sup>4,5</sup>

Expulsion rate of 5.6% was reported among 210 women in a clinic in Hubli, Karnataka state in India,<sup>6</sup> 1.6% among 3000 women in a hospital in Paraguay,<sup>4</sup> and 5.6% among women among 305 periurban Lusaka, Zambia.<sup>5</sup> Another study of 1317 women in north India reported a cumulative expulsion rate of 10.7% by six months.<sup>7</sup> Higher expulsion rates of around 9-16% have been reported in earlier studies.<sup>8</sup> One recent study from Turkey of PPIUCD among women after C-section reported an expulsion rate of nearly 18%.<sup>9</sup> Requests for removal of IUCD was 5.9% and expulsion rate of 3.6%, in the study by Somesh Kumar et al.,<sup>11</sup> compared with 7.6% reported in Hubli, India,<sup>6</sup> 3.4% among women in Paraguay,<sup>4</sup> and 3% among women in Zambia.<sup>5</sup> In the present study, the expulsion rate was about 0.2%

The CS rate is increasing worldwide and very rapidly in some countries.<sup>10</sup> While the rate itself might be lower in most developing countries, the absolute numbers are high because of the high birth rates. In addition, the need for women to breastfeed in these countries is especially important because of the limited financial ability to use infant feeding formulas and to use them adequately when they are adopted. For these women to be able to space their families adequately, it is important that they are able to use a method which does not interfere with breastfeeding or breast milk, is cost-effective, and the use of which does not conflict with some of the consequences of childbirth.

In order not to deprive women who have had previous cesarean deliveries of the IUCD, we suggest that extra care should be taken in these subjects to ensure fundal IUCD placement. Puerperal insertion also requires expertise to avoid these excessive expulsions. The newer IUCDs may be less likely to be associated with some of these problems, and that is a subject for further examination. In the present study acceptance following Caesarian Section was 98.16%.

Somesh Kumar et al.<sup>11</sup> in their study showed that study participants were an average (SD) age of 24 years, some (about one-quarter) had no formal education, and around half had one living child. Just over half (54%) of the interviewed women responded that they wanted more children. More than half of the women received PPF counseling during antenatal care visits. About two-thirds of women had not previously used family planning methods in the past. While more than half of the women based their decision to use a PPIUCD based on discussing with multiple individuals, more than 70% of the women choosing to use a PPIUCD as a contraceptive method received PPF counseling by a dedicated counselor at the facilities, and many stated they made the own decision to use a PPIUCD before delivery, either during antenatal care or before delivery. Nearly all women were satisfied at the time of interview about their decision to have a PPIUCD inserted. Amongst study

participants, 54% had heard of IUCDs before they received PFP counseling, and of this group, only 7% of those who had heard of IUCDs before had used an IUCD before.

About half of the IUCDs were post-placental insertions and nearly one-third were inserted during C-section. About three-quarters of women reported no pain at all during or after insertion. Only a small proportion of women (1-2%) reported that the insertion was painful or very painful during or after insertion. The results show self-reported expulsion rate of roughly 3.8% among clients, with more than three-quarters of women reporting no complaints with their PPIUCD. Only 5.4% of women suffered from symptoms suggestive of infection after the insertion. Symptoms that were considered suggestive of infection included lower abdominal pain, fever, foul smelling/abnormal vaginal discharge, painful intercourse, and bleeding after intercourse. Other self-reported side normal effects of PPIUCD insertion included cramps and abdominal pain which 8.9% of women reported experiencing, along with 5.5% reporting minor menstrual problems. There were no cases of uterine perforation.

In the present study highest acceptance was in the age group above 30 years (29.89%) and primigravidas (25.84%). Literacy contributed to increased acceptance (32.67%). Majority of employed women had higher acceptance as they understood the importance of birth spacing (44.03%). Acceptance was more in women undergoing caesarean section. Complications such as pain, bleeding, and string problems were minimal. Majority of women attended follow up at 6 weeks to confirm that the IUCD is in place (97.94%). Expulsion rates in this study were negligible (0.2%) and continuation rates were 97.56%.

## CONCLUSIONS

The acceptance of post-partum intrauterine contraceptive device is high in this study as awareness among the women was better. As the complications were negligible the continuation rates were nearly 97.56% which is high acceptance and continuation in the Indian scenario.

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