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# A STUDY OF OUTCOME OF POST PLACENTAL PPIUCD INSERTION IN A TERTIARY CARE CENTRE OF CENTRAL INDIA


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## ABSTRACT

**Introduction-** Post partum IUCD is one type of spacing method which can be provided immediately after delivery. The PPIUCD has shown that when it is initiated after delivery it can improve maternal and newborn health by preventing obstetrics complications such as maternal and newborn mortality and other health-related complications associated with closed spaced pregnancy. **Objective-** Evaluation of safety and efficacy of vaginal and intra-cesarean insertion of PPIUCD. **Materials and Methods –** This is a prospective study. The study was conducted from 1st April 2020 to 31st March 2021 in the department of obstetrics and gynecology of M.Y. Hospital, M.G.M. Medical College, Indore(M.P.). IUCD used in the study was CuT-380A. Study subjects were enrolled according to inclusion and exclusion criteria and informed consent was taken. Patients were followed up at 6 weeks and 6 months. **Results –** PPIUCD was accepted by a average percentage of post partum patients. Complications were less and same in both the groups maximum being non visualisation of thread followed by expulsion. **Conclusion –** There were no major complications of IUCD insertion on follow up but acceptance by women need more encouragement in the society.


**KEYWORDS :** postpartum IUCD, vaginal, intra cesarean insertion, safety

## INTRODUCTION

India was the first country in the world to have launched a National Programme for Family Planning in 1952. Over the decades, the programme has undergone transformation in terms of policy and actual programme implementation and currently being repositioned to not only achieve population stabilization goals but also promote reproductive health and reduce maternal, infant & child mortality and morbidity. (1) Family planning can help to prevent one-third of maternal mortality and 10% of perinatal mortality when couples space their pregnancies more than two years apart.

As per NFHS-V TFR for India is 2.0. The NFHS-V Survey shows 66.7% use of Contraceptives among married women (aged 15-49 years) and prevalence of modern method 56.5%. Government of India had divided states into very high focus states with TFR >3.0 and states with TFR <3.0 as high focus states. Madhya Pradesh which once had a TFR of 3.2 in 2011 has a TFR of 2.0 according to the 2021 NFHS surveys. (2). In Madhya Pradesh, the median age at first marriage is 19.1 years among women age. The median interval between births in the five years before the survey in Madhya Pradesh is 29.6 months. There are currently 2 family planning methods provided to women- spacing methods and permanent methods. Quoting some data from the national survey, The contraceptive prevalence rate (CPR) of Madhya Pradesh among currently married women age 15-49 is 72 percent, substantial increase from NFHS-4 (51%). The most common modern spacing methods used by currently married women in Madhya Pradesh are condoms (8%), followed by the pills (2%) and IUDs or PPIUDs (1%). (3)

Globally, IUCD is the second most popular contraceptive method after female sterilization accounting for 13.7% of modern contraceptive prevalence rate. Cu-T380A is highly effective, one time application, safe, long acting, coitus independent, not interfere with breast feeding and rapidly reversible method of contraception with few side effects freely available in any government setup. In a long-term, international study sponsored by the WHO, the average annual failure rate was 0.4% or less, and the average cumulative failure rate over the course of 12 years was 2.2%, which is comparable to that of tubal sterilization (United Nations Development Programme et al. 1997)..Postpartum IUCD insertion can be done within 10 minutes of vaginal delivery, intracesarean or within 48 hours of delivery. (4) The increased institutional deliveries are the opportunity to provide women easy access to immediate PPIUCD services.

Therefore, the Government of India decided to strengthens PPFP and introduced PPIUCD in services in phased manner with 1st batch of clinician training in 2009. PPIUCD has a huge potentiality and strong impact on population control and will prevent unplanned pregnancy and its sequelae. Postpartum women need a range of effective contraceptive methods to be able to prevent an unplanned pregnancy, within a short interval. Postpartum contraception reduces 1/3rd of maternal mortality, miscarriages PROM, Maternal Anemia, preterm births, low birth weight babies and more than 10% Neonatal mortality. It also has lower risk of uterine perforation as compared to Interval IUCD, because of the thickened wall of the uterus. (4) We therefore aimed to compare various IUCD related clinical factors to assess its acceptability, safety and efficacy in immediate postpartum vaginal insertion and intra cesarean section insertions.

## OBJECTIVE

This study was conducted to evaluate the safety and efficacy of IUCD inserted post placental and within 48 hour after delivery of women and follow up for any complications and their incidence.

The median interval between births in the five years before the survey in Madhya Pradesh is 29.6 months. We aimed to prevent unplanned pregnancies and provide spacing between births for better maternal and perinatal outcome.

## MATERIALS AND METHODS

This is a prospective study. The study was conducted from 1st April 2020 to 31st March 2021 in the department of obstetrics and gynecology of M.Y.Hospital,M.G.M.Medical College, Indore(M.P.).

6030 patients were counseled for post placental IUCD insertion, out of which 973 patients agreed. Informed written consent was taken by explaining the benefits and side effects of the device.

Post placental insertion after vaginal delivery was done in 668 women and intrauterine cesarean insertion was done in 305 women and deferred in 25 patients due to postpartum hemorrhage.

Follow up from the patients were taken at the interval of 6 weeks and 6 months via phone calls or OPD visits and patient's experience along with complaints were documented.

### Inclusion Criteria

1) 18-36 yrs old
2) Gestational age- >37 weeks
3) No post partum adverse events
4) Hb>9g%.
5) Patients satisfying the WHO MEC criteria for IUCD insertion.

### Exclusion Criteria

1) STDs
2) Puerperal Sepsis
3) Ruptured membranes for more than 24 hours before delivery.
4) Uterine abnormalities.
5) Pelvic inflammatory disease
6) Manual removal of placenta.
7) Unresolved postpartum hemorrhage
8) Allergy to copper

### Ethical Approval

The research described was approved from the Ethical Committee of MGM Medical college, Indore and was conducted with approved guidance and regulations. Written informed consent was taken from the patient. All the study participants were explained in detail about the purpose of the study in their own language which they could understand.

### Method Of Insertion

Post vaginal insertion

The "no-touch" insertion technique is safest. This includes not letting the loaded IUD to touch any unsterile surfaces (for example, hands, speculum, vagina, table top). The no-touch technique involves:

- Loading the IUD into the inserter while the IUD is still in the sterile package, to avoid touching the IUD directly
- Cleaning the cervix thoroughly with betadine solution before IUD insertion
- Being careful not to touch the vaginal wall or speculum blades with the loaded IUD inserter
- Passing the loaded IUD inserter only once each through the cervical canal.
- Gently advance the loaded IUCD into the uterine cavity , and STOP when the blue length-gauge comes in contact with the cervix or slight resistance is felt.
- white plunger rod is held stationary, while partially withdrawing the insertion tube until it touches the circular thumb grip of white plunger rod. This will release IUCD arms in the woman's uterus. This is called the 'Withdrawal technique'.
- Now remove the white plunger rod, while holding the insertion tube stationary.
- To ensure that arms of 'T' are high in fundus of the uterus, the insertion tube is gently pushed upwards again, until a slight resistance is felt.
- The insertion tube is withdrawn from the cervical canal until the strings can be seen extending from the cervical os.

### Intra Cesarean Section Insertion-

CuT is placed high up at the fundus of uterus manually holding the CuT between the middle and index fingers of the hand throught he uterine incision and the IUD tail is looped in the cervical canal or is cut at the level of the cervix.

## OBSERVATIONS AND RESULT

Out of the total 8340 deliveries in the study period, 6030 women were counselled for PPIUCD insertion. Only 973 of the accepted the method of contraception and gave their consent for insertion. Even after insertion 120 women were lost to follow up and only 828 were followed for the study.

**Table 1: Parity Of The Females In The Study Group**

| PARITY | N | % |
|---|---|---|
| Primi parous | 610 | 64.33 |
| Multiparous-2 | 290 | 30.59 |
| Multiparous-3 | 30 | 3.16 |
| Multiparous-4 | 16 | 1.68 |
| Multiparous-5/>5 | 2 | 0.21 |

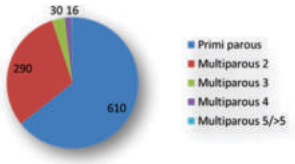


**Chart 1: Parity**

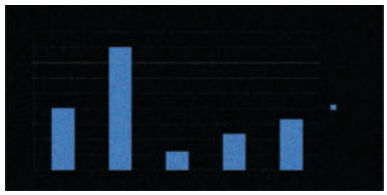

**Chart 2: Desire For Future Pregnancies In The Study Group**

**Table 2: Timing Of Counselling Done In The Study Group**

| counselling | N | % |
|---|---|---|
| antenatal | 258 | 26.51 |
| intrapartum | 715 | 73.48 |

**Table 3: Age Group Distribution Of The Study Group**

| AGE | N | % |
|---|---|---|
| <19 | 211 | 22.26 |
| 20-29 | 624 | 65.82 |
| 30-39 | 113 | 11.92 |
| >/=40 | 0 | 0 |

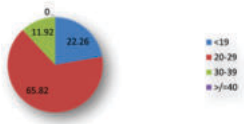


**Chart 3: Age**

**Table 4: Reason For Acceptance Of Ppiucd In The Study Group**

| REASON FOR ACCEPTANCE | N | % |
|---|---|---|
| Long term | 123 | 12.97 |
| Safe | 176 | 18.56 |
| Fewer clinical visits | 0 | 0 |
| No influence in breast feeding | 294 | 31.01 |
| Non-hormonal | 62 | 6.54 |
| One time procedure | 806 | 85.02 |
| Belief in doctor | 707 | 74.57 |
| reversible | 654 | 68.98 |

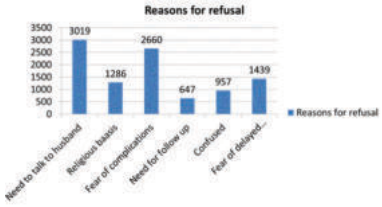


**Chart 4: Reason For Refusal In The Study Group**

**Table 5: Type Of Delivery Preceeding Insertion**

| Mode of delivery | N | % |
|---|---|---|
| Vaginal | 668 | 68.65 |
| caesarean | 305 | 31.34 |

**Table 6: Complications During Follow Up**

| Follow-up | Expulsion (%) | Bleeding (%) | Strings not visible(%) | Infection (%) | Pregnancy (%) |
|---|---|---|---|---|---|
| 6WKS | 44 (91.6) | 73 (90.13) | 117 (89.31) | 12 (75) | 0 (0) |
| 6 MONTH | 4 (8.33) | 8 (9.87) | 14 (10.69) | 4 (25) | 0 (0) |

**Table 7: Comparison Of Complications Between Vaginal And Intracessarean Section Ppiucd Insertion**

| COMPLICATION | VAGINAL (N=668) | INTRACAESAREAN (N=305) |
|---|---|---|
| Expelled | 29 | 19 |
| Not expelled | 639 | 286 |
| Bleeding present | 30 | 51 |
| Bleeding absent | 638 | 254 |
| String not seen | 45 | 86 |
| String visible | 623 | 219 |
| Infection present | 7 | 9 |
| Infection absent | 661 | 296 |
| Pregnancy | 0 | 0 |

## DISCUSSION

In our study, 65.8% women were in the age of 20–29 years group, which is comparable with the study done by Mishra S (5)and Dhruba Prasad Paul et al(6) In this study, 64.3% women were primiparous which is also comparable with the study done by Dhruba Prasad Paul et al (6) and 35.7% women were multiparous . There was a study done by Shukla M et al. (7) where acceptance for PPIUCD was more in the women, who delivered for the 2nd time. In our study, maximum multiparous lady underwent bilateral tubal ligation after vaginal delivery. Maximum women desired pregnancy at an interval of 3-5years followed by women who intended to be pregnant in the next 1-2years who were counselled. Acceptance was mostly when counselling was done intrapartum and post partum after the delivery when the women truly understands the significance and risks of giving birth. Belonging to rural areas women were attracted to the fact that it is a one time procedure and also the method of reversibility which can be done in any PHCs or by experienced ANMs. Reason for acceptance of this method of contraception was that it is a one time procedure (85.02%) followed by its good reversible rate(68.92). Moreover, the act of convincingly making the women understand the importance of spacing and the women's belief in the doctor plays a very important role.

Of the total women counselled, 68% were delivered vaginally and 31.5% by cesarean section. On follow up, CuT was insitu in 99.2% women and maximum complain was regarding the visibility of strings which was confirmed by ultrasound. Expulsion was the second most common complain in women and was more observed in vaginal delivery that cesarean section. In contrary, One recent Study from Turkey of Postpartum Intracaesarean insertion reported an expulsion rate of nearly 18%. (8). History of bleeding and infection was more with post intra cesarean section that vaginal insertion in contrary to the study by richa roy where it was more common post vaginal insertion. (9)

## CONCLUSION

Despite the fact that the government offers IUCD services free of cost, it still remains largely underutilized. (10) Overall acceptance of PPIUCD seen in this study was good (16.1%) despite the myths and misconception about the usage of the interval IUCD in India. Maximum women visiting our hospital are from rural and sub urban areas and providing LARC to such women is very important as this might be the only time she visits a tertiary care centre. Women due to their submissive position and non decisive nature in the indian society do not give consent even after proper counselling. As seen in our study, husband's refusal for PPIUCD insertion in women was the major cause of refusing a contraceptive method which was beneficial for her own body.

The outcomes which were noted in our study, were almost similar with the different studies conducted across the country. But being a tertiary care institution based study, its application as a whole of the region or country should is questionable. Multi-centric studies with a larger sample size and long term follow-up are needed in the country to know the actual acceptability and continuity of IUCD.

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