

## A Retrospective Study of Postpartum Intrauterine Contraceptive Device Insertion with Follow-up in Tertiary Care Hospital

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### Abstract:

**Background and Aim:** Spacing pregnancies more than 2 years apart can prevent nearly one third of maternal deaths and 10% of child mortality. Postpartum contraception options include lactational amenorrhea, barrier methods, progesterone-only pills, sterilization, and IUCDs. The current study aimed to assess the percentage of women who agree to PPIUCD insertion and to examine the factors linked to the acceptance of PPIUCD insertion based on their socio-demographic and obstetric characteristics, as well as future pregnancy intentions.

**Material and Methods:** The study involved 200 women who underwent Postpartum Intrauterine Contraceptive Device insertion (PPIUCD), received counselling, provided written consent, and met specific inclusion and exclusion criteria. The recorded data was compiled and entered in a spreadsheet computer program (Microsoft Excel 2007) and then exported to data editor page of SPSS version 15 (SPSS Inc., Chicago, Illinois, USA).

**Results:** PPIUCD insertion was 5.5% among total deliveries in study period. Majority of women (86.5%) belonged to age group 20-29 years. Acceptance of PPIUCD was high (54%) in case of 2nd para women and most of them (90.5%) were housewives. 54.5% of PPIUCD insertion were done intra-operatively during caesarean section and 23.5% of PPIUCD insertion were done immediately after vaginal delivery. 22% of PPIUCD insertion done within 48 hours of vaginal delivery.

**Conclusion:** PPIUCD is a safe, highly effective and reliable method of contraception with various benefits such as easy insertion, minimal adverse impact on breastfeeding, cost-effectiveness, relief of over-crowded outpatient facilities, and protection against unwanted pregnancy and abortions. Utilization of PPIUCD in the Post-Partum Family Planning Methods shows great potential.

**Keywords:** Counselling, Family Planning, Postpartum Intrauterine Contraceptive Device insertion, Pregnancy.

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### Introduction

India boasts the second highest population globally, with 17.5% of the world population residing in just 2.4% of the total land area. Emphasizing the significance of family planning extends beyond population control. It is now widely acknowledged that family planning plays a crucial role in enhancing the well-being of both mothers and newborns.

In 1971, the World Health Organization defined family planning as a voluntary way of thinking and living based on knowledge, attitudes, and responsible decisions made by individuals and couples. The goal is to promote the health and welfare of the family group and contribute to the social development of a country.[1,2] The cornerstone of reproductive rights lies in women having control over their own fertility, which is essential for the Family Planning Programme in

India. The comprehensive RMNCH+A approach revolutionized the Family Planning Programme with a focus on promoting healthy birth spacing. The WHO technical committee in 2006 recommended that there should be a spacing of at least 24 months between births. Becoming pregnant less than 24 months after giving birth can lead to higher risks for both the mother and the baby, as well as increase the chances of medical termination of pregnancy and septic abortion. Around 27% of births in India occur within 24 months after the first delivery, while another 34% happen between 24 and 35 months. Approximately 61% of births in India occur at intervals shorter than the recommended 36-month gap between births. [3,4]

Spacing pregnancies more than 2 years apart can prevent nearly one third of maternal deaths and 10% of child mortality. Postpartum contraception

options include lactational amenorrhea, barrier methods, progesterone-only pills, sterilization, and IUCDs. The intrauterine contraceptive device (IUCD) is one of the oldest contraception methods available. It is highly effective, safe, long-acting, independent of intercourse, quickly reversible with minimal side effects, cost-effective, very convenient, and requires minimal attention once inserted. Back in 2005, the Government of India introduced the Janani Suraksha Yojana (JSY), a conditional cash transfer scheme aimed at promoting institutional deliveries. Facility-based births in the public sector have increased since the start of JSY. [5,6]

Due to the rise in institutional deliveries, the Government of India has decided to enhance postpartum family planning (PPFP) by introducing postpartum intrauterine contraceptive devices (PPIUCD) in services gradually. The PPIUCD (Cu T 380A) is considered the most cost-effective and ideal postpartum contraceptive option. It is highly effective, safe, inexpensive, reversible, acceptable, simple to administer, and does not affect breastfeeding. It is also independent of coitus. Another benefit of using it is being highly motivated by a dependable spacing method, with minimal risk of uterine perforation due to a thick uterine wall and decreased experience of initial side effects such as bleeding and cramping. [7,8]

One major drawback is the higher chance of spontaneous expulsion. The percentages ranged from 10 to 14%. Paying close attention to the correct insertion technique can greatly reduce the rate of expulsion. [9] The current study aimed to assess the percentage of women who agree to PPIUCD insertion and to examine the factors linked to the acceptance of PPIUCD insertion based on their socio-demographic and obstetric characteristics, as well as future pregnancy intentions.

### Materials and Method

Conducted at the Department of Obstetrics and Gynaecology at General Hospital, affiliated with Municipal Medical College in Ahmedabad, this prospective observational study spanned from July 2019 to July 2021. The study involved 200 women who underwent Postpartum Intrauterine Contraceptive Device insertion (PPIUCD), received counseling, provided written consent, and met specific inclusion and exclusion criteria.

### Inclusion Criteria:

- Women of all ages and number of previous deliveries gave birth either vaginally or through a caesarean section.
- Women who agree to PPIUCD insertion after counseling.
- Women who meet WHO MEC criteria.

### Exclusion Criteria:

1. Hemoglobin levels below 8 gm/dl
2. Extended rupture of membrane for more than 18 hours before delivery.
3. Dealing with uncontrolled postpartum hemorrhage,
4. Individuals with an active STD or other lower genital tract infection, those at high risk for STDs.
5. Individuals with HIV not on anti-retroviral therapy,
6. Those experiencing fever during labour and delivery.
7. Women with significant medical conditions such as diabetes mellitus, heart diseases, and severe anaemia were excluded from the study.

The required tools were neatly organized on a tray with a sterile covering. The patient was positioned in lithotomy. The doctor examined the uterus by feeling for the height of the fundus and its firmness. The perineum was sanitized using povidone iodine. Gently inserting Sim's speculum into the vagina allowed for visualization of the cervix.

The cervix and vaginal walls were cleaned twice using cotton swabs soaked in povidone-iodine solution while the speculum was in place. Gently grasp the anterior lip of the cervix with the sponge holding forceps. The Cu T 380A was taken out from the insertion sleeve and held with long Kelly's forceps using a no-touch technique.

After inserting it into the lower segment, the other hand should be placed on the abdomen and gently push the uterus upward to reduce the angle and curvature between the uterus and vagina. The Cu T with forceps was gently moved upwards until it could be felt at the fundus. Next, the forceps were opened to release the Cu T and moved to the side wall.

The uterus was supported until the forceps were removed. The Sim's speculum was taken out, and the patient was given time to rest. Insertion during caesarean section: After the placenta was expelled, both angles of the uterus were tied. Grasp the uterus at the fundus to stabilize it. The Cu T 380A device was inserted using sponge holding forceps or manually until it reached the fundus and then released at the fundus of the uterus. Strings were directed towards the lower segment without disrupting Cu T's fundal position.

A follow-up appointment was scheduled for 6 weeks and then again at 6 months after the PPIUCD insertion. The patient received a card detailing the type of IUCD inserted and the date. Provide the month and year of insertion, the date of the postpartum follow-up visit, the month and year for IUCD removal or replacement, and the contact information for any issues or questions regarding

the IUCD. The data was entered according to the specified format.

## Results and Discussion

The study was conducted at the Obstetrics and Gynaecology department of Smt. Shardaben General Hospital in Ahmedabad, a tertiary care teaching hospital. It involved 200 women who had a postpartum intrauterine contraceptive device. We observed, tabulated, and analyzed different aspects of women and the procedure for PPIUCD.

Among a total of 11819 deliveries (including both vaginal and caesarean section), 654 (5.5%) women had PPIUCD inserted. Although the government provides free IUCD services and IUCD is highly effective, safe, and reversible as a contraceptive method, it is still not widely used.

The majority of women in the study are in the 20-29 age groups, which is considered the most fertile age range. Among women aged 30-39, 10.5% opt for permanent contraception methods.

**Table 1: Awareness of PPIUCD among Total Women Counsellled**

Awareness of PPIUCD	No. of women
Already aware of PPIUCD	55
Not aware of PPIUCD	145

**Table 2: Classification According Timing of Insertion of PPIUCD**

Timing of insertion	No. of women
Post placental	47
Post-partum	44
Intra caesarean	109

The study by Mishra et al [10] reported a result of 21.49%, while the study by Mwinyi Ali RA et al [9] reported 52%. Most of the women in the study were from urban areas (79%). Perhaps this is due to the hospital's location in an urban area. In Neha et al's study, they found that 70.2% of women were from urban areas, while Aswathy et al's study revealed that 80.2% of women were from rural areas.

Based on the current study, most women who accepted PPIUCD had primary (35.5%) and secondary (30%) education levels, which aligns with the findings of Barala et al [11] (40.3% and 32.8% respectively) and Mishra et al (28.56% and 13.88% respectively). Improved counselling from a medical professional or family planning unit could enhance acceptance of PPIUCD insertion among individuals with lower education levels. In the current research, most women opted for PPIUCD after giving birth to their last child within 0-2 years (35%) and more than 3 years (35%). For women experiencing their first childbirth and with short intervals between pregnancies, a long-acting and dependable form of contraception is essential.

In the current study, most women were encouraged by their doctors during their routine antenatal appointments (50.5%). Following the implementation of JSY and JSSK, most women opt for institutional delivery. The study was carried out in a tertiary care teaching institute where counseling is a crucial component of residency training. Patients were provided with counselling during the antenatal period, early labour, or postpartum period for PPIUCD. Most women

received counselling during early labour (39.5%) because their family members, including their husband, mother, and mother-in-law, were present. Table 2 displays the time interval between delivery and insertion of PPIUCD. According to the current study, 54.5% of PPIUCD insertions occurred during caesarean section, while 23.5% were done right after vaginal delivery. 22% of PPIUCD insertions occur within 48 hours of vaginal delivery. This finding aligns with a study conducted by Sr. Prof. Dr. Bharti Saxena and colleagues. The different complications that may arise after PPIUCD insertion were listed and analyzed. Most women did not face any complications (89.5%). 3.5% of women may encounter issues such as heavy menstrual bleeding and complications related to intrauterine devices. 2% of women experience complications such as expulsion, while 1.5% of women may have abdominal pain. It is akin to Lal P et al. [12]

The study data demonstrates that most women visited our institute for regular follow-up, as it is a tertiary care centre (55.5%). This finding closely aligns with the study conducted by Mishra et al (76.95%). Remember to counsel, report, insert, report, and follow up with a report.

## Conclusion

PPIUCD is a safe, highly effective and reliable method of contraception with various benefits such as easy insertion, minimal adverse impact on breastfeeding, cost-effectiveness, relief of overcrowded outpatient facilities, and protection against unwanted pregnancy and abortions. Utilization of

PPIUCD in the Post-Partum Family Planning methods shows great potential.

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