# ACCEPTABILITY AND COMPLICATIONS OF POSTPARTUM INTRAUTERINE DEVICE INSERTION IN TERTIARY CARE HOSPITAL IN EASTERN NEPAL

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## ABSTRACT

The modern intrauterine contraceptive device (PPIUCD) is a safe, effective and long term reversible, coitus independent method of contraception with fewer side effects. The immediate postpartum insertion is considered to be an ideal time as patients need not have to return to the facility for the same. The aim of the study was to see the acceptance of PPIUCD and study its related complications. This is a hospital based prospective observational study done in a tertiary hospital at Eastern Nepal over a period of Six months from August 2019 to January 2020. All the women who delivered during the study period were counseled for family planning methods and those who opted for PPIUCD were enrolled. Data was validated and analyzed using SPSS version 17. Acceptance of PPIUCD in the study was only 6.3% despite the method being very effective, safe, long acting and reversible with fewer side effects. The main reason for declining the method being misbelief about the method and husband's refusal. Forty percent of the acceptors were in the age group of 21-25 years and 33.6% of them were multigravida. Insertion was high in post placental vaginal delivery (61%) as compared to trans cesarean (28%). The main reason for removal was psychosocial aspects followed by pelvic pain and abnormal uterine bleeding. Few complications like UTI (4.4%), fever (4%) were noted during hospital stay and at three month follow up pelvic pain was the most common problem reported. Though the overall acceptance of PPIUCD is in rising trend but in this study it is very low. Awareness of the method, improving health education, active participation of the partner in the counseling process will definitely change the recent scenario. It should be incorporated in the government schemes like Safe Motherhood to cover the high unmet need of contraception in Nepal.

## KEYWORDS

Acceptability, Intrauterine Contraceptive Device, Postpartum Family Planning, Nepal

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## INTRODUCTION

Postpartum family planning (PPFP) can be defined as the use of family planning methods in the immediate postpartum period through the 12 months following childbirth. The intention to choose PPFP methods such as postpartum intrauterine device (PPIUD) remains low in countries such as Nepal.[2] It has been estimated that three in five women worldwide face an unmet need of PPFP methods and this unmet need in Nepal is as high as 24%.[3] The increasing institutional delivery globally, provides an opportunity to address this gap by implementing immediate PPFP services in the health facilities.[4]

Copper intrauterine devices (IUD) are preferred due to its long duration of effect, high impact in contraception, low failure rate, reversibility and low cost.[5,6] It is used by over 130 million women around the world. In developing countries 14.5% and in developed countries 7.6% of women use this method in reproductive age.[7]

Copper IUD are valuable birth control resources.[8] But still this device has not gained much popularity due to misconception among the general population and health care personnel. However, most of the health care providers are reluctant in performing interval IUCD insertion due to fear of perforation, infection and inadequate training.[9]

Significantly increased institutional deliveries after introduction of Safe Motherhood in Nepal provides an opportunity for offering family planning services to the women, who have just delivered at health centers and want to prevent unintended pregnancies or delay having more children. Utilizing this immediate postpartum period for counseling on family planning and PPIUCD insertion will overcome multiple barriers to service provision.

Despite the many advantages of the PPIUD as a method of family planning, it is not that popular in Nepal as it should have been. Use of modern contraceptive methods in the country is limited to 43% and that of IUCD to only 1% (NDHS 2016-17).[3] To address this gap, Nepal Society of Obstetricians and Gynecologists (NESOG) jointly with the Nepalese government and with the support from International Federation of Obstetrics and Gynecology (FIGO) introduced the initiative of institutionalization of immediate services in selected major referral facilities of Nepal in 2015.[10-12] This study aims to assess the acceptance of women for PPIUD and to illustrate their socio-demographic and obstetric profile determining the acceptance for the same and associated complications with the procedure.

## MATERIALS AND METHODS

This was an observational study carried out in the Department of Obstetrics and Gynecology, Nobel Medical College and Teaching Hospital, Biratnagar in Eastern Nepal from August 2019 to January 2020. All women attending antenatal clinics and admitted for delivery during the study period were counseled for PPFP methods. Cu T 380 A was inserted in patients who fulfilled the medical eligibility criteria after their consent. Women were observed daily for evidence of any complications till the time of discharge and asked for follow up immediately for any adverse events like pelvic pain, foul smelling vaginal discharge or excessive bleeding and fever or else if no adverse effects.

Then they were asked for follow up after two weeks following trans cesarean PPIUCD insertion for visibility of the thread and after six weeks of post placental insertion. At scheduled follow up, patient's satisfaction was assessed and complications if any were noted and treated.

*Inclusion Criteria*: All antenatal patients admitted for delivery to our hospital were counseled for PPFP methods. Consent was obtained from them who opted for insertion after fulfillment of the following inclusion criteria:

1. 18–45 years old,
2. Gestational age 36–42 weeks and
3. No obvious pelvic infections.

*Exclusion Criteria*: The exclusion criteria used in the study were;

1. Fever during labor and delivery,
2. Having active STD or other lower genital tract infection or high risk for STD,
3. Known to have ruptured membranes for more than 24 h prior to delivery,
4. Known uterine abnormalities e.g. bicornuate/septate uterus, uterine myomas, manual removal of the placenta and
5. Unresolved postpartum hemorrhage or postpartum uterine atony requiring use of additional oxytocic agents in addition to active management of the third stage of labor.

It is of three types on the basis of insertion time; (1) Post placental insertion: Insertion within 10 minutes following delivery of the placenta following a vaginal delivery. (2) Intra cesarean insertion: Insertion that takes place during a

cesarean delivery, after removal of the placenta and before closure of the uterine incision. (3) Postpartum before discharge: Insertion of IUD within 48 hours after delivery and before the woman leaves the facility where she delivered. In case of discomfort due to long thread, cutting short of thread was done. The women in whom the procedure was uneventful were requested to follow up at 6 weeks and at 3 months.

Data were entered and calculations were done in Microsoft Excel, point estimate at 95% Confidence Interval was calculated along with frequency and percentage for binary data. Data was validated, entered into a computer and statistical analysis was carried out using SPSS version 17. Descriptive data were summarized as percentage or means. Parameters studied were represented in diagrams and charts.

## RESULTS

After postpartum family counseling of 7,170 clients, total of 456 women accepted PPIUCD as a method of contraception (6.3%). Acceptance of PPIUCD was highest among hindu women, women from rural areas and those belonging to joint families. Among them, 276 (60.5%) had primary level education, grade (1-8), 152 (33.4%) had secondary level, grade (9-12) and only 28(6.1%) had tertiary level of education with bachelor/ master degree. Mean age of the study population was 25.15 years whereas the minimum age was 18 years and maximum of 43 years.

As shown in the Fig. 3, 280 (61.4%) patients had post placental insertion. One hundred and twenty-eight (28.0%) underwent trans cesarean and (11.0%) had postpartum insertion

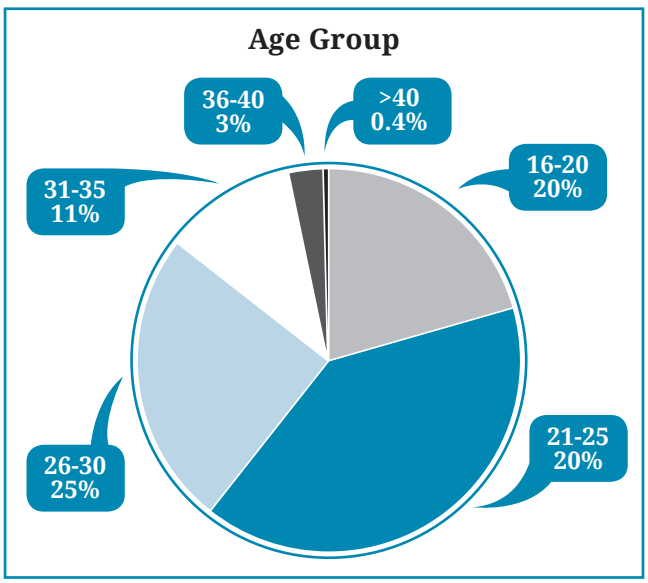


**Fig. 1**: Distribution according to age group

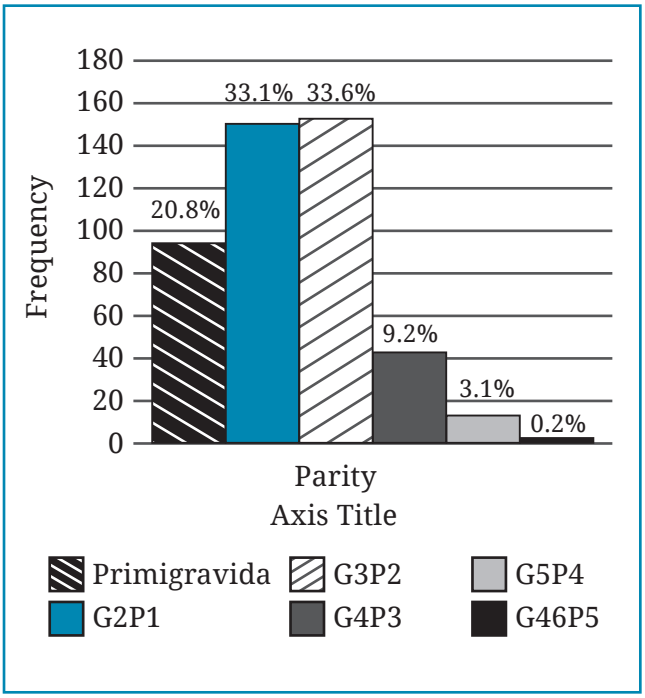


**Fig. 2**: Distribution of gravidity and parity

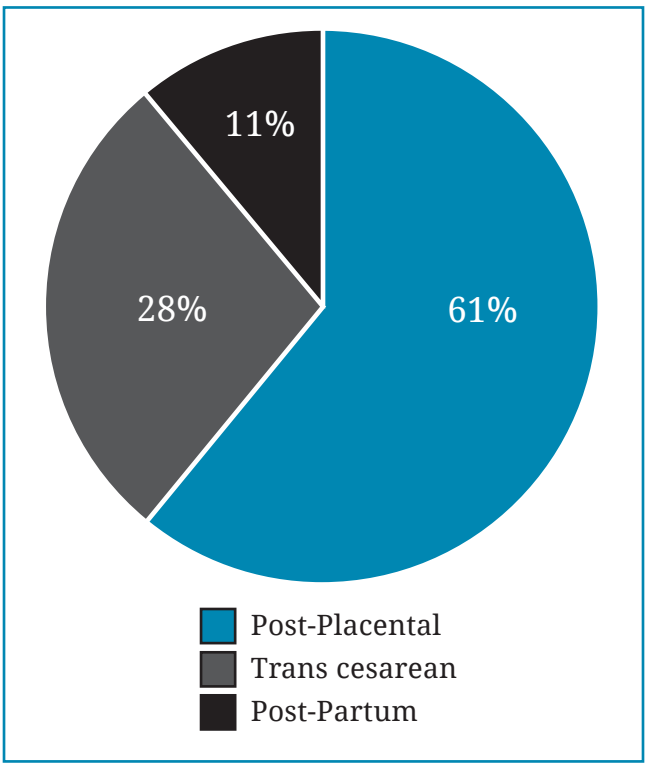


**Fig. 3**: Types of IUCD insertion

of IUD. The reason of opting this method was for birth spacing in (37.0%) and limiting family in (63.0%).

The most popular method of family planning used previously by the study population was Depo-Provera in (27.2%) followed by male barrier method in (24.6%) as shown in (Fig. 4).

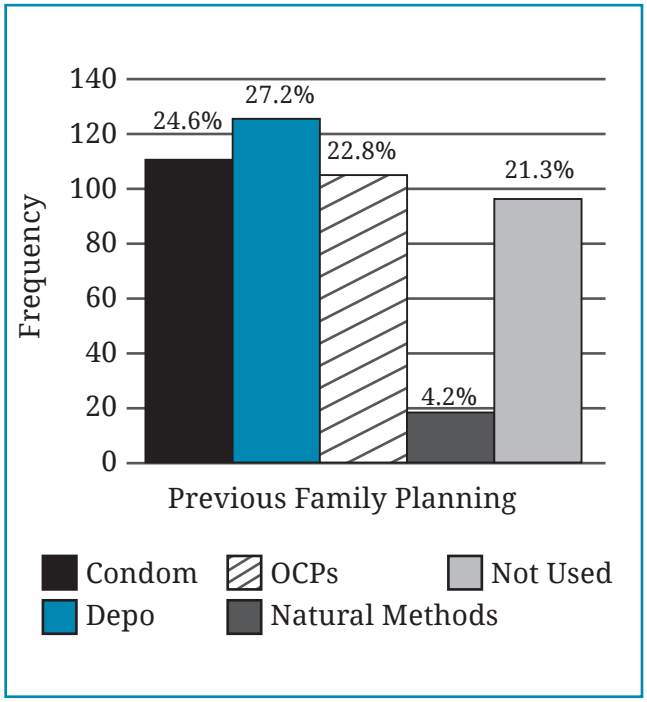


**Fig. 4:** Family planning used previously

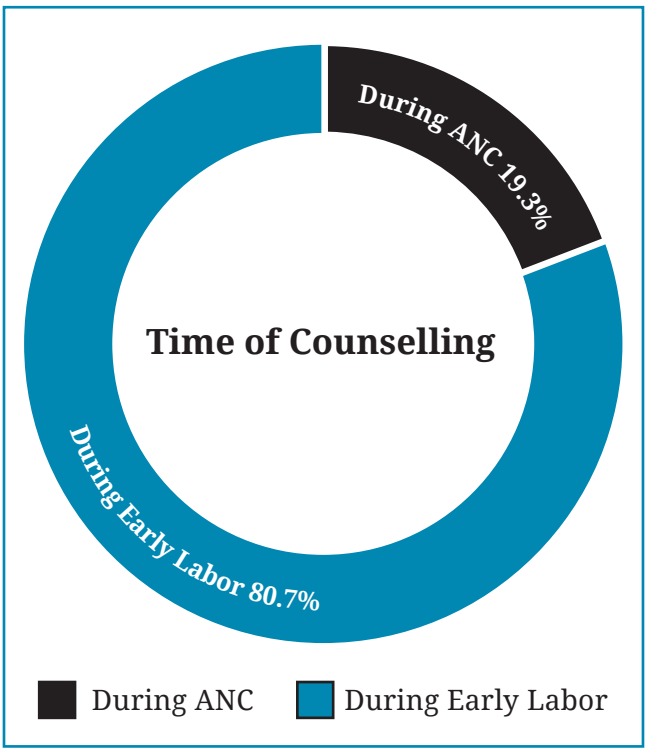


**Fig. 5**: Distribution of time of counseling

As depicted in the above diagram, the maximum numbers of cases were counseled for PPIUCD insertion in early labor and during preparation for LSCS (80.7%) as most of the patients were unbooked presented after the onset of labour and (19.3%) were already counseled during ANC visit (Fig. 5).

**Table 1: Complications**

| Complications | n | % |
|---|---|---|
| Fever | 19 | 4.2 |
| **PPH** | 4 | 0.9 |
| Puerperal sepsis/lochia with foul odor | 10 | 2.2 |
| **UTI** | 20 | 4.4 |
| **Wound infection** (episiotomy site) | 4 | 0.9 |

Complications observed during the hospital stay and follow up were in 57 (12.5%) of the patients. Urinary tract infection 20 (4.4%) was the most common followed by fever 19 (4.2%) and puerperal sepsis 10 (2.2%)(Table 1).

**Table 2: Follow up adverse events**

| Follow-up adverse events | n | % |
|---|---|---|
| Discharge P/V | 50 | 17.9 |
| Menstrual complaints | 41 | 14.7 |
| Pelvic Pain | 61 | 21.9 |
| Others | 39 | 14.0 |

Among all clients, 284 (62.2%) came for follow up at 3 months. Majority of them had pelvic pain 61 (21.8%) as an adverse event followed by per vaginal discharge 50 (17.9%) (Table 2).

**Table 3: Spontaneous expulsion**

| Spontaneous expulsion | N |
|---|---|
| Complete | 4 |
| Partial | 8 |
| **Total** | **12** |

Twelve patients (4.2%) had spontaneous expulsion. Eight (2.8%) had partial while four (1.4%) had complete expulsion which was confirmed by visualization by naked eye and doing pelvic ultrasound (Table 3).

**Table 4: Reason for CuT removal**

| Reason for CuT removal | n |
|---|---|
| Pelvic Pain | 4 |
| Menstrual Complaints | 2 |
| Psychosocial cause | 5 |

The main reason of removal of PPIUD was psychosocial causes followed by pelvic pain and abnormal uterine bleeding (Table 4).

## DISCUSSION

Acceptance of better family planning and birth spacing services is an integral part for better maternal and neonatal outcomes. In this study, the overall acceptance of PPIUCD was only 6.3% which was very low as compared to other studies done by Mishra *et al*[13] in Odisha, where acceptance was 17.17% and 36% acceptance in the study done by Anjali *et al.*[14] Goswamy *et al*[15] found acceptance of 8.55%. There were several reasons for low acceptances in our study mainly fear of excessive bleeding, refusal by the partners and willingness to go for a permanent method of contraception. Anjali *et al*[14] found 32% opted for other methods of contraception, 18% had fear of complication, 8% not specified any reason to refusal of IUCD. Reasons for refusal in Goswamy *et al*[15] were fear of complications in (41%), partner refusal in (35%), 22% inclined to other methods, 5% not had any reasons and 1% declined on religion basis.

Many studies have shown that when the partner is involved in counseling and decision making, the acceptance and continuation rates were high. Unfortunately many of our patients were not accompanied by their partners as most of them were migrant workers so decision making was pretty difficult for them alone.

In this study, 276 (60.5%) had primary level education and 152 (33.4%) had secondary level. Mishra *et al*[13] found high acceptance among those who completed their primary and secondary school education. We observed that the rate of acceptance increase with the level of educational status of the patients and their partners which was similar to study done by Egypt by Safwat *et al.*[16] Acceptance of PPIUCD was most common among multiparous women but the study done by Mishra *et al,*[13] Anjali *et al,*[14] primigravida women were acceptors as compared to multiparous women.

In our study, immediate post-placental insertion was high (61%) as compared to trans-cesarean (28%) and post-partum (11%). Immediate post placental IUCD insertion (PPIUCD) during caesarean section provides a good opportunity to achieve long term contraception with minimal discomfort to the women.[17]

Expulsion of an IUD is an important factor affecting its safety and efficacy. The expulsion rate in our study was 4.2% and all were following post placental insertion and this is comparable to the study done by Chi *et al*[18] where the expulsion rate was also high in the post placental group. However, Celen *et al*[19] have reported a higher cumulative expulsion rate of 17.6 per 100 women per year. The reason of disparity may be due to the skill and technique as post-placental insertion was also done by midwives in the labor room but Cesarean being done by trained Obstetricians. The timing of insertion may be another affecting the expulsion rate.

In a multicenter study done by Tatum *et al*[10] the expulsion rates of PPIUCD were similar at 1 and 12 months in Belgium (4%) and Chile (7%), while in the Philippines, expulsion increased from (19 %) at 1 month to (28 %) at 12-months follow-up.

Two hundred and eighty four patients (62.2%) came for follow up at 3 months at the clinic. Some were followed up over the phone and rest was lost to follow up. Close clinical follow up can ensure proper placement and assessment of associated complications. Regarding complications observed in this study was not fatal except for urinary tract infection in 4.4% followed by fever in 4.2% and puerperal sepsis in 2.2%.

According to an ICMR study on urban women, persistent pelvic pain was a common symptom reported in 25% users following interval IUCD insertion.[21] This finding was similar to our study being the pelvic pain (21.8%) as the most common adverse event.

Limitation of our study was small sample size therefore; results may not be applicable to all women undergoing IUCD insertion. Very brief Antenatal Counseling was done. Thus, more qualitative and quantitative research is needed to be done in order to analyze the side effects and acceptance of PPIUCD.

In conclusion, acceptance of PPIUCD was low in the study and these needs to be addressed at policy level to meet the unmet need of contraception. For this improving health education, counseling of the couples with active participation of the partners will definitely change the scenario as a whole and if acquired it will reduce the maternal and neonatal mortality and morbidly directly and indirectly.

The postpartum insertion of an IUCD is likely to bring about a revolutionary change in contraceptive use in the country with minimal and least fatal complications. It should be part of a maternal/newborn/reproductive health package. The government schemes like Safe Motherhood is an opportunity to add PPIUCD into family planning program and could address the high unmet need for family planning in Nepal.

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