

**Post Placental Intrauterine Contraceptive Device - A Review of its Acceptance, Expulsion and Continuation Rate Among Parturients.**

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**Abstract**

**Objective:** Aim of the present study was to assess the acceptance, expulsion and continuation rate of post placental Intrauterine Contraceptive device and to determine the various complications of PPIUCD at the end of 6 weeks, 3 months and 6 months.

**Methodology:** It is a prospective study conducted at a state government hospital. A total of 385 pregnant women were counselled during the antenatal period, early labour and also preoperative period. Women who were eligible and willing for PPIUCD insertion were included and insertion was carried out as per guidelines of the training manual.

**Results:** Out of 385 women counselled for PPIUCD, 137 were acceptors (35.6%). The continuation rate was 93.5% at 6 months follow up. 38 women experienced some complications during follow up period (29.9%) and 89 women had no complications.

**Complications:** PPIUCD is safe, effective without any major complications and with low expulsion and high continuation rate. Further strategies should be developed to increase awareness about the benefits of PPIUCD and

dispel misinformation. It can act a boon for women for spacing and limiting childbirth.

**Keywords:** Post placental intrauterine contraceptive device, Normal Vaginal Delivery, Lower Segment Caesarean Section

**Introduction**

India has surpassed China to become world’s most populous nation with 142.86 crore people according to the UN world population dashboard.[1]. According to NFHS 5 survey 2019-2020, the TFR has shown a decline from 2.2 to 2.0. [2]. Despite these advances in reproductive health, India continues to suffer from the silent crisis of unintended pregnancies. The unmet need of family planning among women of reproductive age group remains high at 9% and unmet need for spacing which remains a big issue in India is around 10%.[2]. No significant decline in this unmet need for family planning has been observed. Even in 2023, women don’t have control over their fertility. To address this unmet need of spacing, especially in the postpartum period PPIUCD was introduced in 2009.[3]. The immediate postpartum period is an ideal time for PPIUCD when women are

highly motivated to accept family planning methods.[4].

Despite all the advantages, PPIUCD acceptance rate is still low among women especially in a setting where women meet with health care providers is difficult due to geographical barriers and most women do not return for postnatal services. Hence there is a need for deeper understanding of why the acceptance rate for PPIUCD is still low in India.

**Aims and objective.**

This study is aimed at evaluating the acceptance, expulsion and continuation rate of post placental Intra uterine Contraceptive device insertion and to determine the various complications associated.

**Material and methods**

Present prospective study was conducted at a State Government Hospital. A total of 385 women were counselled in the antenatal period, early labour and also preoperative period about PPIUCD. Women who were eligible and willing for PPIUCD insertion were included. Informed consent was obtained. Insertion of IUCD was carried out as per guidelines of the training manual.

**Exclusion criteria included**

1. Fever during delivery and labour (temp more than 38 degrees Celsius)
2. Hb <8gm/dl
3. Known to have ruptured membranes >18 hours prior to delivery
4. Known uterine abnormalities like bicornuate uterus, septate uterus, uterine myoma's or others
5. Manual removal of placenta
6. Un resolved Postpartum haemorrhage requiring use of additional oxytocic agents in addition to active management of 3rd stage of labour
7. Liver or renal dysfunction
8. Diabetes Mellitus

9. Any previous history of bleeding or coagulation disorder.

Follow up was done at 6 weeks, 3 months and 6 months and SOS from the date of insertion for any complaints and clinical examination was carried out to rule out expulsion or displacement.

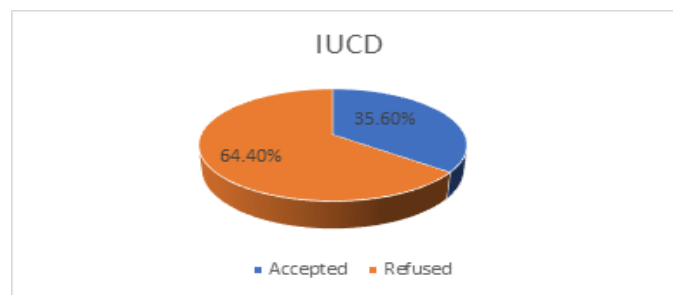
**Observations**

The Acceptance Rate for PPIUCD was 35.6%. Out of 385 women counselled 137 were acceptors.

Table 1: Accepted/Refused

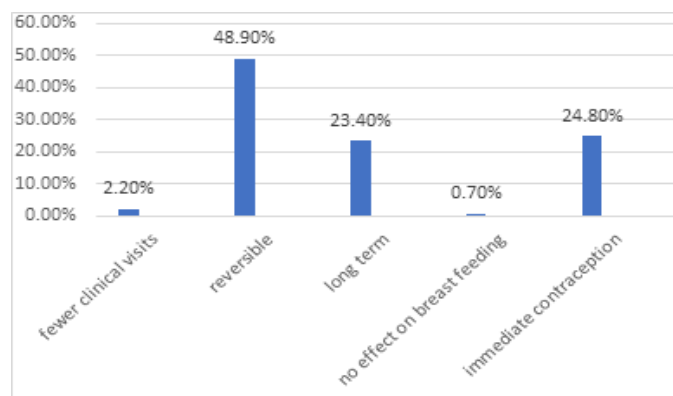
	Frequency	Percentage
Accepted	137	35.6
Refused	248	64.4
Total	385	100.0

Figure 1: Accepted/Refused.



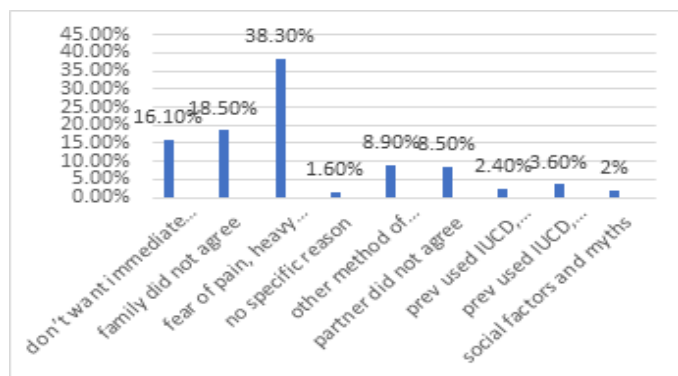
Among study subjects, 67 women accepted PPIUCD due to reversible nature (48.9%), 34 due to its immediate contraception effect (24.8%), 32 due to its long-term effect (23.4%), 3 due to fewer clinical visits involved (2.2%) and 1 accepted due to no effect on breast feeding (0.7%).

Figure 2: Reasons for Acceptance



Among study subjects, 95 refused PPIUCD out of fear of pain and heavy menses (38.3%), in 46 as family did not agree (18.5%), 40 as they didn't want immediate contraception (16.1%), in 22 cases as they wanted other method of contraception (8.9%), in 21 cases partner did not agree (8.5%), 6 had previously used IUCD and got it removed due to heavy menses (2.4%), 9 also had previously used IUCD and in their case it was removed due to pain (3.6%), 5 subjects had social, religious factors and myths associated with their refusal (2.0%) and 4 women had no specific reason for refusal (1.6%).

Figure 3: Reasons for Refusal

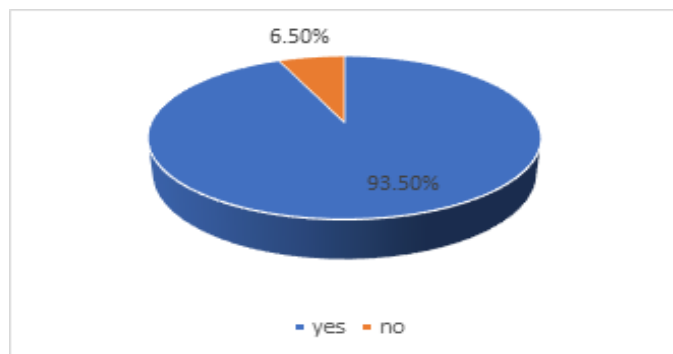


Among subjects, 116 women continued PPIUCD during the follow up period (93.5%), 8 women got it removed (6.5%) and 10 were lost to follow up (7.3%).

Table 2: Continuing the PPIUCD

	Frequency	Percent
Yes	116	93.5
No	8	6.5
Total	124	100.0

Figure 4: Continuing the PPIUCD



Among 8 women who got their PPIUCD removed, reason for removal in all cases was heavy menses (100%).

Table 3: Reason for removal

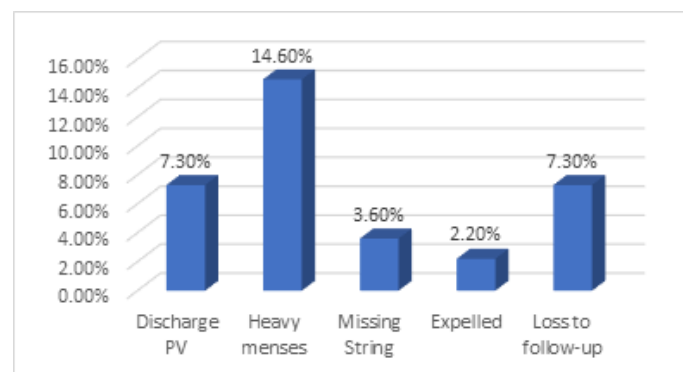
	Frequency	Percent
Heavy menses	8	100

Among acceptors in follow up period (n=137), 20 women had heavy menses (14.6%), 10 women had discharge per vaginum (7.3%), 5 women had missing string (3.6%) and 3 women experienced expulsion of IUCD (2.2%). 10 women were lost to follow up (7.3%). There was no case of perforation, displaced IUCD or IUCD with pregnancy in situ.

Table 4: Complications During Follow UP.

	Frequency	Percent
Discharge PV	10	7.3
Heavy menses	20	14.6
Missing String	5	3.6
Expelled	3	2.2
Loss to follow-up	10	7.3

Figure 5: Complications during follow up period

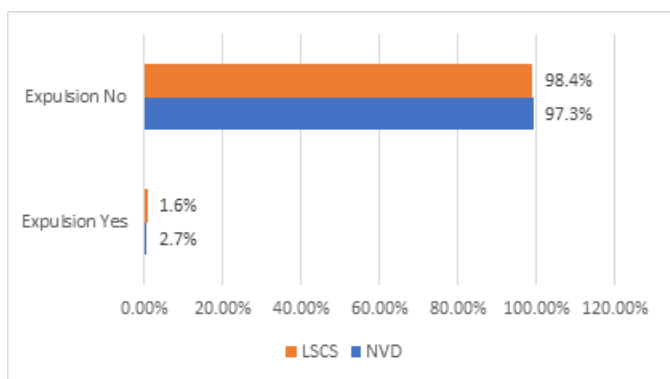


Among subjects who underwent NVD only 2 women experienced expulsion of IUCD (2.7%) and among women with LSCS only 1 woman had expulsion (1.6%). Overall, only 3 women had expulsion of IUCD (2.2%).

Table 5: Mode of delivery and Expulsion.

			Expulsion		p value
			Yes	No	
Mode of delivery	NVD	Frequency	2	72	1.000
		Percentage	2.7%	97.3%	
	LSCS	Frequency	1	62	
		Percentage	1.6%	98.4%	
Total		Frequency	3	134	
		Percentage	2.2%	97.8%	

Figure 6: Mode of delivery and expulsion



**Discussion**

In present study out of 385 women counselled for PPIUCD, 137 were acceptors. Thus, acceptance rate for PPIUCD in our study was 35.6%. In a similar study by Tyagi S et al [5] out of 1398 eligible subjects, 424 were acceptors (30.34%). Also, in a study by Doley R et al [6] out of 3320 candidates 1217 were acceptors (36.66%).

Among study subjects, 67 women accepted PPIUCD due to its reversible nature (48.9%), 34 due to its immediate contraception (24.8%), 32 due to its long-term effect (23.4%), 3 due to fewer clinical visits (2.2%) and 1 accepted due to its no effect on breast feeding (0.7%). Similar findings were observed in a study by Jairaj S et al [7]. In a study by Asnani M et al [8] majority of women accepted PPIUCD due to its reversible nature (88.88%).

Out of 385 subjects 248 refused PPIUCD (64.4%). 95 subjects refused PPIUCD out of fear of pain and heavy menses (38.3%), in 46 as family did not agree (18.5%),

40 as they didn't want immediate contraception (16.1%), in 22 cases they wanted other method of contraception (8.9%), in 21 cases partner did not agree (8.5%), 6 had previously used IUCD and it was removed due to heavy menses (2.4%), 9 had previously used IUCD and it was removed due to pain (3.6%), 5 subjects had social, religious factors and myths associated with their refusal (2%) and 4 women had no specific reason for refusal (1.6%). In a similar study by Sharma A et al [9] for majority of subjects reason for refusal of PPIUCD was partner and family refusal (72.75%) followed by fear of complications in 69.96%. Similarly in a study by Pradeep MR et al [10] most common reason for refusal of PPIUCD was due to fear of complications (66.7%), mother-in-law not willing (18.2%), husband not willing (12.2%) and other reasons in 2 cases (0.03%).

In present study, the continuation rate was 93.5% at 6 months follow up. In a similar study by Vidyarama R et al [11] out of 959 total acceptors, 881 continued i.e., continuation rate was 91.8%. Another study by Doley R et al [6] continuation rate of PPIUCD was 90.84%. Jakhar R et al [12] in another study observed a continuation rate of 89.5% among acceptors. Srivastava S et al [13] observed a high continuation rate of 94.2%. Removal rate was 6.5% during 6 months follow up period and reason for removal in all cases was heavy menses post insertion (100%). Kittur S et al [14] in a similar study recorded a removal rate of 6.07% among subjects and most common reason for removal was excessive bleeding from vagina (42.11%). In a recent study by Agarwal R et al [15] most common reason for removal was heavy bleeding per vaginum in 13 out of 35 cases.

In this study 38 women experienced some complications during follow up period (29.9%) and 89 women had no complications (70.1%). In a similar study by Agarwal R

et al [15] 78.44% subjects experienced no complications during follow up. In a study by Jain R et al [16] 54% subjects had some complications during follow up.

Among acceptors during follow up period (n=137), 20 women had heavy menses (14.6%), 10 women had discharge per vaginum (7.3%), 5 women had missing strings (3.6%) and 3 women experienced expulsions of IUCD (2.2%). 10 women were lost to follow up (7.3%).

In a recent study by Agarwal R et al [15], during follow up period majority of women complained of heavy bleeding (9.48%). Mishra S et al [17] in a study observed that majority of subjects complained of heavy bleeding (23.5%), missing strings in 11.29% and expulsion in 8.99% cases.

In this study among women who underwent vaginal delivery only 2 women experienced spontaneous expulsion of IUCD (2.7%) and among women with caesarean section only 1 woman had spontaneous expulsion of IUCD (1.6%). In a study by Harani MK et al [18] expulsion rate was higher among vaginal delivery group (4.7%) than caesarean section group (3.1%). Halder A et al [19] reported an expulsion rate of 4% among vaginal delivery group and 2% among intra caesarean group. Lal P et al [20] in a study reported an expulsion rate of 2.86%. Deshpande S et al [21] and Srivastava S et al [13] in similar studies reported spontaneous expulsion in 9.2% and 2.35% cases.

### **Conclusion**

PPIUCD is safe, effective without any major complications and with low expulsion and high continuation rate. Further government should develop strategies to increase awareness about the benefits of PPIUCD and dispel misinformation, provide couple counselling during antenatal period, cash incentives to motivator, acceptor and health care provider, proper

training and good after care. Hence, PPIUCD can act as a boon for women for spacing and limiting childbirth.

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