

## Evaluation of PPIUCD V/S Interval IUCD in terms of awareness and acceptance



### Medical Science

KEYWORDS : PPIUCD, Interval IUCD, Awareness, Acceptance.

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### ABSTRACT

**Background:** The study was conducted to comparatively evaluate PPIUCD insertion and Interval IUCD in terms of awareness and acceptance in relation to Age, Parity, Religion, Literacy and Residence. The study was also intended to assess the complications in the two groups.

**Method:** During this prospective longitudinal Study, a total of 1842 patients delivered vaginally as well as by cesarean who were fit for PPIUCD insertion. All of them were counseled for PPIUCD. 232 women accepted it. Another 50 patients willing for interval IUCD insertion were also followed up. Outcomes were studied at 15 days and 6 weeks.

**Result:** Women were highly aware of interval IUCD as compared to PPIUCD and the difference was significant. In contrast, the acceptance rate of PPIUCD was higher as compared to interval IUCD after counseling among the antenatal patients. Acceptance rate was higher among the age group of 21 to 25 years, 2nd para, women of Hindu religion, literate and urban women. Expulsion rate was higher in PPIUCD inserted vaginally than trans-cesarean. The overall continuation rate was 87.93% among the PPIUCD users at 6 weeks.

**Conclusion:** Immediate post partum insertion of IUCD is a safe, convenient, cost-effective plus a reversible and long acting method of contraception.

### Introduction:

For the women, new born and her family, post partum period is the most critical time where the whole family needs a focused, specific and compact package of health services.

At present, India has a population of 1.21 billion as per March 2011 census (1). About 61% of the births in India occur within 36 months of the previous birth which is shorter than the normally recommended spacing of at least 3 years (1). Most of these are unintended births. As a result of which, morbidity and mortality rate is very high during this period. Studies show frequent successive pregnancies pose hazards of anemia, abortion, preterm labor, PPH and mortality in mother. Babies of these women also suffer from low birth weight, preterm labor, small-for-gestational age and intrauterine death.

Currently in India, 65% of the women in the first year post partum have an unmet need for family planning. Therefore this critical period needs to be focused the most (2). To address this, the Ministry of Health and Family welfare, Government of India developed a national strategy to start PPIUCD service among the government hospitals.

In our setting where most of the women live in rural area and have limited access to medical facilities, delivery at an institution offers these women a unique opportunity to come in contact with the quality health care services. If these women are counseled to follow up at 6 weeks for contraception, it will not be feasible for them due to social or financial reasons. Hence this important population is left behind.

IUCD has been well known for its safety and efficacy since ages. It is simple, reversible, long term method with minimal side effects, high continuation rate, one time motivation and freely available in government sector in India.

Women and more importantly, their family are easily motivated and most receptive to family planning advice during the post partum period in the hospital. So this is the best time

when IUCD can be inserted in a certainly non pregnant female without any added complication. This also saves an additional visit of the women to the hospital from far off rural areas with limited transport facilities.

### AIMS AND OBJECTIVES:

The purpose of this study was to evaluate the awareness and acceptance of PPIUCD in terms of demographic parameters and also highlight its benefits in comparison to interval IUCD.

### METHODS:

**Study design:** prospective longitudinal study

**Study period:** October 2014 to April 2016.

**Study setting:** Department of Obstetrics and Gynecology, GMERS Medical college, Sola, Ahmedabad.

Study group: 232 women were included in the study which was divided into 120 vaginal insertions of PPIUCD and 112 PPIUCD insertions made during caesarean. Another 50 patients with interval IUCD insertions were included for comparative analyses.

**Inclusion criteria:** Women in the immediate post partum period who underwent PPIUCD insertion

1. Immediately within 10 min of placental expulsion – post placental IUCD
2. Within first 48hrs of delivery – Post partum PPIUCD
3. During LSCS- trans caesarean IUCD

**Exclusion criteria :** According to WHO medical eligibility criteria for IUCD, those excluded were

1. Women not motivated for PPIUCD insertion
2. Female with high risk medical factors – DM, HTN, asthma.etc.
3. Females with high risk obstetric factors- PIH, APH, PPH, Anemia, chorioamnionitis, PROM>18 hours, puerperal sepsis, etc.

Informed written consent was obtained in all before IUCD insertion. After active management of third stage of labor was complete, an empty uterine cavity was ensured by manual palpation. PPIUCD was inserted using Kelley’s placental forceps to ensure fundal placement in the vaginal insertion group. In case of LSCS, IUCD was placed at the fundus manually through the lower segment incision. Uterine incision was then closed routinely. Strings were cut up to the level of external Os. After insertion, in both vaginal and LSCS groups, the strings were always visible at the cervix.

**Follow up:**

These cases were followed up at 15 days and 6 weeks. Those who did not turn up for follow up were contacted through phone. Results were compared with interval IUCD. During the follow up, a per- speculum examination was done to assess the strings. If the threads were long, they were cut 2 cms from the external cervical Os .If the strings were not visible, an USG or X-ray pelvis was done to confirm its intrauterine position. They were also enquired about any other complains like excessive bleeding, abdominal pain, abnormal discharge, H/o expulsion/removal and other side effects.

**RESULTS:**

During our study period , after excluding the women with contraindications for PPIUCD , almost all other women on admission to Labor room were enquired whether they were aware about PPIUCD or not.

**TABLE 1: AWARENESS OF PPIUCD V/S INTERVAL IUCD**

Awareness	PPIUCD		INTERVAL IUCD	
	NO.	%	NO.	%
Yes	48	2.6	1344	73.0
No	1794	97.4	498	27.0
Total	1842	100	1842	100

Later these women were counseled about PPIUCD insertion and their health benefits and the acceptance was calculated

**TABLE 2 : ACCEPTANCE RATE OF PPIUCD**

Women counseled	IUCD accepted	Acceptance Rate (%)
1842	232	12.6

Table 3 shows demographic parameters of the women included in the study. A total of 116 women underwent PPIUCD insertion of which 60 were post vaginal delivery and 56 were during cesarean section. Another 50 cases of interval IUCD during the same period were included in the study for comparative analysis.

**TABLE 3 : DEMOGRAPHIC PARAMETERS OF PPIUCD ACCEPTORS**

Characteristics	No.	%
<b>AGE (YEARS)</b>		
<20	10	4.32
21-25	100	43.10
26-30	82	35.34
31-35	32	13.79
>35	8	3.45
<b>PARITY</b>		
Para 1	84	36.21
Para 2	122	52.58
Para 3 and more	26	11.21
<b>RELIGION</b>		
Hindu	192	82.76
Muslim	32	13.79
Others	8	3.45
<b>EDUCATIONAL STATUS</b>		

Illiterate	84	36.21
Primary	116	50.00
Secondary	24	10.34
Graduate and more	8	3.45
<b>AREA OF RESIDENCE</b>		
Urban	142	61.21
Rural	90	38.79

Out of those who accepted PPIUCD, majority of the clients were in the age group of 21-25 years(43.10%) closely followed by age group of 26-30 years (35.34%). Most of the women were Para 2 (52.58%). With respect to religion, Hindu women readily accepted PPIUCD (82.76%). Urban (61.21%) and literate women (63.79 %) were more receptive to counseling and hence the rate of PPIUCD insertion was higher among them.

**Follow up:**

Of the total 232 women, 152 (65.5%) turned up in the OPD for follow up. Of the remaining who did not turn up in the OPD, 42 (18.1 %) were contacted through phone. Rest of the 38(16.4%) were lost during follow-up (neither returned nor could be contacted)

Result of the follow-up at 15 days and 6 weeks were compared in 3 groups according to the type of IUCD insertion.

**TABLE 4: 15 DAYS FOLLOW-UP**

VARIABLE	Post vaginal PPIUCD (n=120)		Trans cesarean PPIUCD (n=112)		Interval IUCD (n=50)	
	No	%	No	%	No	%
No complain	68	56.67	76	67.85	40	80.00
Bleeding	30	25.00	10	8.93	2	4.00
Abdominal pain	16	13.33	24	21.42	7	14.00
Discharge P/V	2	1.67	2	1.79	1	2.00
Expulsion ( Partial/full)	4	3.33	0	0	0	0

Following PPIUCD insertion, 62.06% of the patients had no complains at 15 days. Major complain was bleeding (25%) in post vaginal insertion and abdominal pain (21.42%) in trans-cesarean insertion.

**TABLE 5: 6 WEEKS FOLLOW-UP**

VARIABLE	Post vaginal PPIUCD (n=120)		Trans cesarean PPIUCD (n=112)		Interval IUCD (n=50)	
	No	%	No	%	No	%
No complain	74	61.67	84	75.00	39	78.00
Bleeding	22	18.33	14	12.50	6	12.00
Abdominal pain	6	5.00	8	7.14	3	6.00
Discharge P/V	6	5.00	4	3.57	2	4.00
Expulsion ( Partial/full)	12	10.00	2	1.79	0	0

Partial/full expulsion occurred in 6.03% cases of PPIUCD insertions which were detected by history, clinical examination and pelvic USG. Of these, 12 occurred in post vaginal insertion as compared to 2 in trans-cesarean section group, which is significantly higher. In interval IUCD group, no expulsion was found at 6 weeks.

Incidence of irregular bleeding and menorrhagia were higher fol-

lowing post partum insertion (15.5%) in comparison to interval IUCD (12%).

None of the patients had major complication like uterine perforation or infection.

81.89% were willing to continue PPIUCD as their mode of contraception at 6 weeks. Out of 232, 42 women wanted removal of CuT due to various reasons as shown in Table 6

**TABLE 6: REASONS FOR DISCONTINUATION OF PPIUCD**

Expulsion	14
Removal for	12
a) Bleeding	4
b) Pelvic / abdominal pain	2
c) Discharge per vagina	
d) Social reason	24

Fear of dyspareunia in the male partner and the thought of IUCD being foreign body which will hinder her future fertility were the main social reason accountable for PPIUCD removal.

After thorough counseling about their misconceptions, 28 women willingly continued PPIUCD where as it was removed in the rest 14. Hence, the Continuation Rate at 6 weeks in our study was **87.93%**.

#### DISCUSSION:

It has been proved that IUD has a distinct advantage over other contraceptive methods during post partum period. It is long acting, highly effective, easily accessible and reversible family planning method. Although both Mala N and CuT are freely available in government sector in India, CuT has an upper edge during the post partum period as it is free from systemic side effects and does not interfere with lactation which is the case with hormonal methods. CuT 380A confers contraceptive protection same as that achieved with tubal sterilization according to United Nations 1997.(3, 4)

Only 2.6% of the women in our study were familiar with PPIUCD where as 97.4% had not even heard of PPIUCD. In contrast, when enquired about interval IUCD, 82.8% of the clients knew about it. In the study by Kathied G et al (5), the awareness rate for PPIUCD was 5.79% in another tertiary care centre of India. Even the women aware of PPIUCD had misconceptions about it that it causes heavy bleeding and pain, interferes with lactation, decreases fertility even after removal and causes pain to the male partner during coitus, etc. These women were thoroughly counseled to clear and remove their misconceptions.

During our study period, out of the total deliveries at the institute, only 1842 females were fit for PPIUCD insertion without any contraindications. After their proper counseling, the acceptance rate of PPIUCD was 12.6%, much higher than the awareness rate of 2.6%. This shows that the health care personals have an important role to play in motivating these women for PPIUCD insertions. Acceptance rate in the study by Gupta et al was 14.4%. (1)

Majority of the cases who accepted PPIUCD belonged to the age group of 21-25 years (43.1%) closely followed by age group of 26-30 years (35.34%). This may be due to the fact that most of the patients who came for delivery in our settings belonged to the age group of 21-30 years. Alvariz Peyalo et al(6) found 20.6 years to be the average age of PPIUCD acceptors where as Gupta et al (1) found 15.7% females belonged to the age group

of 20-25 years.

Coming to religion, 82.75% acceptors of PPIUCD were Hindu in contrast to 13.79% of Muslims. This discrepancy may be due to their personal religious beliefs. In the study by Sharma et al (7), a similar contrast was seen (85.8% Hindu v/s 8.84% Muslims)

During our study, majority of the PPIUCD clients were having 2 children (52.58%). The reason behind this may be that before opting for tubal ligation as their permanent sterilization method, they want their children to be grown. So for the mean time, they accepted PPIUCD as their temporary spacing method. In the study by Bhalerao et al (8), 46.5% were Para 1 and 46% were Para 2.

Considering educational status, 63.8% acceptors were educated in our study. Literate people were more receptive to our counseling as they understood the importance of small family for which they needed appropriate spacing method. Same findings were confirmed in the study by Ulah and Chakraborty (9) which showed women's education as one of the important factor.

Chowdhary et al (10) in his study found that the acceptance for PPIUCD was more among urban population. Our study also showed similar result (61.2% urban acceptance). Most of the rural population was illiterate but because of the good effort by health care personals, 38.79% accepted PPIUCD. We also saw that the pregnant women accompanied by ASHA, ANM and Anganwadi workers more readily accepted PPIUCD as compared to others. This shows that the rural women listen more to the grass root workers and hence their training and their incorporation into the PPIUCD program is essential to ensure its success.

In our study, 65.5% cases returned for follow up in the OPD while 18.1% were contacted through phone. Rests 16.4% were lost to follow up.

At 15 days follow up in our study, the main complains were bleeding (25%) and abdominal pain (21.42%) in vaginal PPIUCD and trans cesarean group respectively. 4 PPIUCD were partially expelled in the vaginal group.

At 6 weeks follow up in our study, 61.66% of females in vaginal and 75.0% in the trans cesarean group did not have any complains in comparison to 78% in the interval group. In the study of Sharma et al (7), 59.6% of women in vaginal group and 64.3% in the trans-cesarean group had no complains. The significance of follow up at 6 weeks was that the health care personal as well as the patient herself can be reassured that the IUCD is well placed. In our study, 98.2% of the trans-cesarean IUCD and 90% of the post vaginal PPIUCD were retained. We found that the expulsion rate was significantly higher in post vaginal (10.0%) as compared to trans-cesarean (1.8%). Similar observation was made by Sharma et al (7). In study of Fernandes JHA (11), the expulsion /removal rate was 32% in vaginal delivery group where as it was none in trans-cesarean group. The reason for this disparity could be due to the direct manual placement of IUCD under vision during cesarean section as well as the lack of experience and training of the health care provider in post vaginal insertion. The same thing has been observed that the expulsion rate varies according to the clinician skills in post placental insertion of IUCD (12). Thus additional training and special kit should be provided to the health centers where PPIUCD programs are functioning (13). In 4.31% of the cases, the vertical stem of CuT was visible at the external Os (partial slid) and only 1.72% had complete expulsion (which was confirmed by pelvic USG and X-ray). The cumulative rate of PPIUCD expulsion at 6 months was 16.2% in the study of Tatum HJ (14) and 16.4% by Bhalerao AR (8). 4 multicentric studies in UN POPIN report found the cumulative expulsion rate to be 9% in immediate post placental insertion as compared to 37% for insertion between 24-48 hours. (15)

After 6 weeks in our study, 81.9% were willing to continue PPI-

UCD where as 18.1% wanted removal. Social reason (57.14%) was the main liable factor for PPIUCD removal. Similarly, Gupta et al (1) found social reason (58.8%) as the main causative factor for removal. In the study by Sharma et al (7), pelvic pain (6.25%) and menorrhagia (5.20%) were the principal factor for removal. Zhou SW et al (1991) (16) showed removal rate of 4.6% and 4.2% for post vaginal and trans cesarean group respectively.

In our case, total 31.89% cases had complains at 6 weeks. Bleeding (15.51%) and abdominal pain (8.62%) were the leading complains. In the study of Celen S et al(2004)(17), cumulative rate of bleeding was 11.4% and 8.2% in vaginal and trans cesarean group of PPIUCD respectively as compared to 18.33% and 12.50% in our study. Lower abdominal pain was present in 13.54% clients in the study by Sharma et al(7). There was no case of perforation or infection in our study which was in accordance with the study by El Shafel MM et al (18) and Ricadle et al (2006) (19). However there are reports of high incidence of infection in developed countries which may increase the risk of pelvic infection(20,21) with PPIUCD. Therefore use of prophylactic antibiotics should be considered in our settings. Similar findings were confirmed in the study of Eroglu et al (22)(2009).

Our study concludes PPIUCD is a safe contraceptive option just after delivery. This is in accordance with the findings of Shereen Z Butta et al(23).

### CONCLUSION:

To conclude, PPIUCD is the most effective method of contraception in the immediate post delivery period as the women are highly motivated to use a spacing method so that their new born can be brought up with a relaxed mind without any tension of unintended pregnancy.

After delivery it has an added advantage of providing one time integrated service of delivery as well as contraception in a large no of puerpera who do not return for contraception in large numbers as they come from far off areas.

Insertion of IUD just after delivery may avoid the discomfort related to interval insertion and any bleeding occurring at that time will be disguised by lochia.

The main disadvantage of spontaneous expulsion is negligible when compared to the retention rate in the population who otherwise might have been left neglected because of no return later for contraceptive services. In developing countries like India where the PNMR and IMR is high, the decision of early TL during cesarean may be regretted later on. The best advantage of the trans-cesarean insertion is that it offers an alternative to common practice of tubal ligation in case of multiple repeat cesarean at short intervals.

Taking into consideration that 70% of our population belongs to rural India, integrating ANMs, ASHA & TBAs in the PPIUCD programs and motivating them in the form of honorarium will lead to a better acceptance and more awareness of this method. This, leading to a higher success rate of the program, in turn, will help India progress.

In nut shell, PPIUCD insertion should be included as a part of obstetrical management of a patient.

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