

## Acceptance of immediate postpartum intrauterine contraceptive device (PPIUCD) insertion by pregnant women

Dr. Mahabur Rahaman<sup>1</sup>, Dr. Nirmalya Saha<sup>2\*</sup>, Brig. (Dr.) A. K. Srivastava<sup>3</sup>,  
Col. (Dr.) A. K. Sood<sup>4</sup>

<sup>1</sup>Senior Resident, Department of Obstetrics & Gynaecology, Agartala Govt' Medical College & G. B. Pant Hospital, Agartala, Tripura, India; <sup>2</sup>Assistant Professor, Pursuing M. Sc. Clinical Embryology, Department of Anatomy, Tripura Medical College & Dr. B. R. A. M. Teaching Hospital, Agartala, Tripura, India;

<sup>3</sup>Professor, Department of Obstetrics & Gynaecology, Commandant Military Hospital, Deolali, Maharashtra, India; <sup>4</sup>Professor Department of Obstetrics & Gynaecology, Saraswathi Institute of Medical Sciences, Pilkhuwa, Hapur, Uttarpradesh, India.

\*Corresponding author: Dr. Nirmalya Saha

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**Abstract:** Higher maternal and child mortality and morbidity are interrelated with short intervals between births. Postpartum women need a range of effective contraceptive methods for prevention of an unplanned pregnancy, within a short interval. Significant counselling during the antenatal period and before delivery decides the use of PPIUCD as a method of contraception. Immediate postpartum insertion of IUCD is a safe and effective, in comparisons with other insertion times. **Objective:** The study was aimed to evaluate the acceptance of immediate postpartum intrauterine contraceptive device (PPIUCD) insertion during normal vaginal delivery and intraceasarean after 10 minutes of removal of placenta (post placental insertion) and immediate post partum (within 48 hours) of normal vaginal delivery. **Materials and Method:** It was conducted among 50 postpartum women attending Eastern Command Hospital, Kolkata with their consent and permission of Institutional Ethics Committee. The participants were counselled during antenatal period, early labour and postpartum period (within 48 hours of delivery). **Results:** The acceptance of PPIUCD insertion was higher during early labour (48%) followed by post partum period (34%) and antenatal period (18%). It was higher in multigravida (88%) than among primigravida (12%). The acceptance in multigravida with two or more children was higher (54%) than multigravida with one child (34%) and with primigravida (12%). It was higher in normal vaginal delivery (84%) than intraceasarean insertion (16%). Post placental insertion was higher (62%) than immediate post partum insertion (38%). **Conclusion:** The acceptance of PPIUCD was high. This study will develop possible references to motivate the pregnant women with an assurance for immediate PPIUCD insertion.

**Key Words:** Contraception, Immediate postpartum, IUCD, LSCS, Post-placental, PPIUCD.

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### I. Introduction

Fertility is a biological phenomenon for sexually active fertile couple.<sup>1</sup> From ancient time (1550 B.C.) till the end of the introduction of modern fourth generation intrauterine contraceptive devices for the women, the main object of interest was prevention of conception with regular sexual intercourse.<sup>1,2</sup>

The choice of contraception by individual woman or couples through "Cafeteria Approach" plays a vital role in fertility control, particularly for the lactating women.<sup>1</sup> The ideal time to discuss contraception with cafeteria approach is the antenatal period.<sup>3</sup> Post Partum Intrauterine Contraceptive device insertion is one of the newer approaches in contraception where intrauterine contraceptive devices can be inserted within 48 hours of post partum period.<sup>4</sup> The approach of immediate postpartum IUCD insertion is more applicable to our country where delivery may be the only time when a healthy woman comes in contact with skilled healthcare personnel and appropriate facilities. Other advantages of insertion of an IUCD after delivery are that the ease of insertion, discomfort related to interval insertion can be avoided and any bleeding from insertion will be disguised by lochia.<sup>5,6</sup>

Significant counselling during the antenatal period and before delivery decides the use of PPIUCD as a method of contraception. The women may highly be motivated for a need of an effective method for contraception so that the child can be brought up with a relaxed mind without the worry of unintended pregnancy. Contraception immediately after post caesarean delivery may have an added benefit in reducing the number of caesarean sections by allowing for adequate timing between pregnancies full uterine recovers would be achieved allowing the women for successful subsequent vaginal delivery.<sup>7</sup> On the other hand, if they are

made to wait for 6 weeks for initiating an effective method for contraception, they may conceive accidentally or may not come for contraception.<sup>5</sup>

So, the present study with immediate postpartum intrauterine contraceptive device (PPIUCD) insertion was aimed to evaluate the acceptance of various modes of postpartum intrauterine contraceptive device insertion among the women who were counselled and accepted for PPIUCD insertion.

## II. Materials And Methods

This study was conducted at Command (Eastern Command) Hospital, Kolkata from January, 2015 to September, 2016 with the permission of Institutional Ethical Committee. Fifty (50) married pregnant women of above 18 years of age who had accepted for PPIUCD insertion were included in this study. The women having obstructed labour, manual removal of placenta, unresolved post partum haemorrhage, chorioamnionitis, premature rupture of membrane (PROM) > 18 hours, extensive genital trauma, any uterine abnormalities and congenital anomalies, fever during or after labour (temperature >38<sup>0</sup> c), allergic to copper, Wilson's and any haemorrhagic diseases, undiagnosed abnormal uterine bleeding and any pelvic inflammatory diseases were excluded from the study. The study variable were age of the individuals classified into groups, parity of women (primigravida and multigravida), number of living children (no child, one child, 2 or more children), period of counselling (antenatal period, during early labour, immediate postpartum period), mode of delivery (normal vaginal delivery, lower segment caesarean section), types of insertion (post placental and immediate post partum following normal vaginal delivery, post placental following lower segment caesarean section).

All the individuals were counselled during antenatal period, early labour and immediate postpartum period for insertion of post placental (within 10 minutes of delivery of placenta), immediate postpartum (within 48 hours of delivery of baby) and intraceasarean post placental (before lower segment caesarean section) PPIUCD insertion. The individuals were classified into three (03) age groups: Group I – 18 to 23 years; Group II – 24 to 29 years; Group III – 30 years and above. They were inserted immediate postpartum intrauterine contraceptive device (Cu – T 380A) either by normal vaginal delivery or during lower segment caesarean section (LSCS) following standard procedures of immediate PPIUCD insertion for normal vaginal delivery and intraceasarean insertion.<sup>12</sup> After insertion the participants were observed and were counselled for checking the IUCD thread regularly. All the observations were recorded in master chart for analysis by Statistical Package for the Social Science (SPSS) software version (20.0).

## III. Results

The mean age of the participant was 25.24 ± 3.82 years with a range of 19 to 32 years. The mean ages with Standard Deviation (SD) for Group – I, Group – II and Group – III were 21.47 ± 1.35 years, 26.13 ± 1.69 years and 31.63 ± 0.74 years respectively.

**Table 1: Showing the acceptance of immediate PPIUCD insertion (n = 50).**

Parameters		Frequency	Percentage (%)
Age	Group – I (18 – 23 years)	19	38%
	Group – II (24 to 29 years)	23	46%
	Group – III (30 years and above)	8	16%
Parity	Primigravida	6	12%
	Multigravida	44	88%
Number of living children	No child	6	12%
	One child	17	34%
	2 or more children	27	54%
Period of counselling	Antenatal period	9	18%
	During early labour	24	48%
	Immediate postpartum period	17	34%
Mode of delivery	Normal vaginal delivery	42	84%
	Lower segment caesarean section	8	16%
Type of insertion	Post placental following normal vaginal delivery	23	46%
	immediate post partum following normal vaginal delivery (within 48 hours of delivery)	19	38%
	Post placental following lower segment caesarean section	8	16%

**Table 2: Period of counselling and acceptance of immediate PPIUCD insertion (n = 50).**

Period of counselling	Age Group			Parity			Mode of delivery and type of insertion				
	Group I	Group II	Group III	Primigravida	Multigravida		NVD			LSCS	Total postplacental
				(0 living child)	1 Child	≥ 2 Children	Total NVD	Immediate postpartum	Postplacental	Postplacental	
Antenatal Period	3 (6%)	4 (8%)	2 (4%)	2 (4%)	3 (6%)	4 (8%)	4 (8%)	1 (2%)	3 (6%)	5 (10%)	8 (16%)
During early labour	9 (18%)	11 (22%)	4 (8%)	2 (4%)	9 (18%)	13 (26%)	21 (42%)	1 (2%)	20 (40%)	3 (6%)	23 (46%)
Immediate postpartum period	7 (14%)	8 (16%)	2 (4%)	2 (4%)	5 (10%)	10 (20%)	17 (34%)	17 (34%)	0 (0%)	0 (0%)	0 (0%)
Total (n = 50)	19 (38%)	23 (46%)	8 (16%)	6 (12%)	17 (34%)	27 (54%)	42 (84%)	19 (38%)	23 (46%)	8 (16%)	31 (62%)
					44 (88%)						

(Percentage = %; Group I = 18 to 23 years, Group II = 24-29 years, Group III = above 30 years age; NVD = Normal vaginal delivery, LSCS = Lower segment caesarean section; Immediate post partum (within 48 hours of delivery))

The above table suggest that, the acceptance of PPIUCD insertion was the highest when counselled the women aged 24-29 years during early labour (22%). It was also observed that, the overall acceptance also was the highest (46%) in Group II followed by Group I (38%) during early labour (18%). Both the Group I & II had almost similar acceptance of PPIUCD insertion while counselling done during immediate postpartum period.

The PPIUCD insertion was accepted more by the multigravida (88%) where multigravida with 2 or more numbers of children had accepted more (54%) comparing to that having one child (34%). The highest acceptance in the present study was observed among multigravida when counselled during early labour period.

It was observed that, PPIUCD acceptance was the highest for the Normal Vaginal Delivery when counselling done during early labour (42%), followed by during postpartum period (34%) and during antenatal period (4%). The acceptance for PPIUCD insertion during Lower Segment Caesarean Section was higher when counselling done during antenatal period (10%) and lower when counselling done during early labour (6%).

In present study, post placental (after normal vaginal delivery and intra-caesarean) insertion was higher (31 or 62% participants) than immediate postpartum insertion (19 or 38% participants). The acceptance rate was more when counselled during early labour (46%). Though the overall post placental PPIUCD insertion was more during the counselling of early labour period but the acceptance rate was found higher in LSCS postplacental insertion when counselled in antenatal period (10%).

#### IV. Discussion

The evolution of the intrauterine contraceptive device had led to safe and effective contraceptive choice for many women. The efficacy and high satisfaction in pregnancy prevention suppressed other daily and scheduled methods.<sup>8</sup> Short postpartum period was not appropriate for counselling. Afford to get consent from a partner having no knowledge about postpartum intrauterine contraceptive device was different, therefore it was most important for proper counselling of the couple together to choose a contraceptive method which will in turn increase the compliance.<sup>9</sup> The ideal time to discuss contraception is the antenatal period.<sup>3</sup> In the present study, 18% of the participants were counselled during antenatal period and during early labour (48%) and postpartum period (34%). This suggested effective counselling during hospital stay.<sup>3</sup> PPIUCD insertion was accepted by 100% of the participants as it was convenient after childbirth and to limit child birth.<sup>10</sup> Similar was observed in the present study where all 50 (100%) women counselled had accepted PPIUCD insertion.

In the present study, the participants were from 19 to 32 years of age with the mean age of 25.24 ± 3.82 years. The use of intrauterine device was found to be highest among the women aged 25 to 34 years and lowest among the aged 15 to 24 years.<sup>11</sup> Similar was observed in the present study where intrauterine contraceptive device was accepted higher among the women of 24 to 32 years of age (62%) and lower in 18 to 23 years of age (38%). It was found that with the increasing age, the acceptance of PPIUCD insertion was increasing. The acceptance of PPIUCD was high in the participants less than 19 years of age. The reasons for acceptance of PPIUCD were due to its long term effects, safety and reversibility.<sup>12</sup> In the present study PPIUCD was accepted only in 4% at the age of 19 years. It was found to be the highest in 24 to 29 years of ages (46%).

Majority of the women were of age between 20 to 29 years of age where 87% of the women were multiparous and 13% of the women were primiparous.<sup>5</sup> These were similar to our study where 88% participants were multigravida and 12% of them were primigravida and to the study by Goswami G et al.<sup>9</sup> where PPIUCD

was accepted higher in multipara (86%) than primipara (14%). Majority of the participants were of ages 31 to 40 years who were with 2 to 4 parity (84%). PPIUCD acceptance rate was 65.1% among the multiparous women.<sup>13</sup> In the present study, the acceptance of PPIUCD among multigravida (88%) was found to be higher than the study done by Grimes et al.<sup>3</sup> But it was found that with the acceptance, PPIUCD insertion was more common among primigravida (31.46%) as compared to multigravida (12.5%).<sup>14</sup> Similar was observed in the study where majority of primiparous women (44.9%) were counselled and accepted PPIUCD insertion (28.09%).

The duration since last child birth was significantly associated with acceptance of PPIUCD.<sup>14</sup> Intrauterine contraceptive insertion was found to be very less (1.13%) among the women without any living child where as the percentage was increasing with the increase of number of children.<sup>15</sup> In the present study, similar was observed where the number of participants without living child, accepted for PPIUCD insertion was 12% and it was increased with the increase number of children (34% with one living child and 54% with two or more living children) which was found to be dissimilar where acceptance rate decreased with parity two to parity four or more.<sup>4</sup>

Evaluating convenient time frames for IUD insertion was a key strategy for increasing IUD use and increase IUD use could lead to fewer pregnancies, less maternal morbidity and lower maternal mortality.<sup>16</sup> In a study of immediate postpartum IUCD insertion with Cu – T 380A, 56% of insertion were after vaginal delivery and 44% insertions were done at caesarean section.<sup>5</sup> But in the present study, the acceptance for PPIUCD was more for normal vaginal delivery (84%) and less during caesarean section (16%). These findings were almost similar where 81 PPIUCD were inserted during normal vaginal delivery (81.48%) and caesarean section (18.52%).<sup>10</sup>

In a study, 11.33% of the women accepted for PPIUCD insertion after normal vaginal delivery and 36.09% accepted for intraceasarean insertion. Post-placental insertion was observed in 8.92% of the women who had normal vaginal delivery and 2.4% of the women had post partum insertion of normal vaginal delivery.<sup>12</sup> In the present study, post-placental insertion after normal vaginal delivery was more (46%) and was found less during intraceasarean insertion (16%). PPIUCD insertion during postpartum period after normal vaginal delivery was more (38%) comparing to the above mentioned study.<sup>12</sup> Insertion at caesarean section was convenient for the women as the contraception could be started immediately. This reduced the risk of unplanned and unwanted pregnancies.<sup>17</sup>

## V. Conclusion

The acceptance of PPIUCD was high in the present study where most of the women with higher parity accepted it and mostly when counselled during early pregnancy. The postplacental insertion was more accepted among the women. This present study may develop possible references for accepting immediate post partum intrauterine contraceptive device (IUCD) insertion in Post Partum Family Planning Programme, which in turn will help to motivate the pregnant women attending hospital at any time of their pregnancy.

### Corresponding Author:

<sup>2</sup>**Dr. Nirmalya Saha**, Assistant Professor, Department of Anatomy, Tripura Medical College & Dr. B.R.A.M. Teaching Hospital, Agartala, Tripura, India. E mail: [nirmalya17799@gmail.com](mailto:nirmalya17799@gmail.com)

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