

Original Article

**EVALUATION OF AWARENESS, ACCEPTANCE AND EXPULSION RATE OF POST-PLACENTAL INTRAUTERINE DEVICE (PPIUCD) IN A TERTIARY CARE CENTRE**

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**ABSTRACT**

**Background:** During the postpartum period both woman and newborn need a special integrated package of health services as morbidity and mortality rates are quite high. Advantages of immediate postpartum intrauterine contraceptive device insertion (PPIUCD) include convenience, safety, client motivation, facilitates proper birth spacing, does not interfere with lactation, immediately reversible and does not require repeated health care visits for refill of contraceptive.

**Methods:** This prospective longitudinal study was conducted in the Department of Obstetrics and Gynaecology, College of Medicine & JNM Hospital, Kalyani, West Bengal from 1st January 2016 to 31st December 2016.

**Results:** During the study period from 1st January 2016 to 31st December 2016, 9441 women were counseled and 61.1% women were aware about PPIUCD. 7410 patients delivered during this period. Overall 3889 patients had PPIUCD insertion in the study period. Acceptance rate was 52.5%. Majority of the insertions were post placental insertions (63.7%). Majority of the cases who had PPIUCD insertion were between the age group of 18-25 years (40.52%). Most of the clients were para-2 (34.89%). PPIUCD with expulsion rate was of 0.6%.

**Conclusion:** Immediate postpartum IUCD insertion is safe, effective, low cost, long acting and reversible contraceptive method. Awareness of PPIUCD should be increased to create a positive impact. The feasibility of accepting PPIUCD insertion can increase with proper antenatal counselling and awareness programs in rural and urban areas. With proper insertion techniques expulsion rate can be kept low.

**Key words:** contraception, post placental insertion, PPIUCD

**INTRODUCTION**

During the postpartum period both woman and newborn need a special integrated package of health care services, as morbidity and mortality rates are still quite high. Women are also vulnerable to unwanted

pregnancy, which often leads to illegal abortions. In developing countries, delivery is probably the only time when a healthy woman comes in contact with health care provider and the chances of her returning for contraceptive advices are uncertain.<sup>1</sup> In

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spite of availability of wide range of contraceptives, the unmet need for family planning is estimated to be 12.8%.<sup>2</sup> The common reasons for unmet need maybe unsatisfactory services, lack of knowledge or information, and fear about side effects of contraceptive method.

WHO medical eligibility criteria state that PPIUCD is safe in postpartum lactating women with advantages outweighing the disadvantages.<sup>3</sup> Advantages of immediate postpartum insertion of the IUCD include convenience, safety, client motivation, ensuring proper birth spacing, unrelated to lactation, immediate reversibility and last but not the least it does not require repeated visits to health center for further contraceptive administration. PPIUCD insertion gives the women an additional advantage of leaving the hospital with appropriate long-term contraception after institutional delivery thereby decreasing the overall costs borne by patients and the Government.

## MATERIALS AND METHODS

This prospective longitudinal study was conducted in the Department of Obstetrics and Gynaecology, College of Medicine & JNM Hospital, Kalyani, West Bengal from 1st January 2016 to 31st December 2016. The study was approved by the ethics committee of the institution.

**Inclusion Criteria:** All women attending antenatal clinic or labour room in early labour were counseled for post partum insertion of IUCD either at vaginal delivery or during caesarean section.

**Exclusion Criteria:** All women with chorioamnionitis, puerperal sepsis, PROM for > 18 hours,

known distorted uterine cavity, past history of PID or ectopic pregnancy and PPH.

All antenatal patients, irrespective of maternal age, risk factor and proposed mode of delivery at antenatal clinic of the Institution were counseled about contraceptive options. Women were asked whether they were aware of PPIUCD before or not. Women were sensitized about advantages and importance of family planning methods during ANC visits and also at the time admission (before delivery but not when in active labour). Pros and cons of PPIUCD were explained. Cu T 380 A was inserted within 10 minutes of placental expulsion in vaginal deliveries and during caesarean section in women who gave informed consent. Follow up schedule was at 6 weeks after insertion and the patient was asked to revisit after 3 months.

## RESULTS

During the study period from 1st January 2016 to 31st December 2016, a total of 9441 women were counseled and of them 61.1% women were found to be aware of PPIUCD (Table 1).

Table 1: Awareness of PPIUCD

Women counselled	Aware of PPIUCD	Not aware of PPIUCD
9441	5773 (61.1%)	3668 (38.9%)

7410 patients delivered during this period. A total of 3889 patients had PPIUCD insertion in the study period. Mean Acceptance rate was 52.5% (Table 2). Majority of the insertions were post-placental 63.7% as compared to 36.3% of PPIUCDs, which were inserted during caesarean section.

Table 3 shows that majority of cases who had PPIUCD insertion were between the age group of

Table 2: Acceptance of PPIUCD insertion

Month (2016)	Total Deliveries	Total Insertions (Accepted)	Intra Caesarean	Vaginal (Post placental)	Acceptance(%)
January	607	58	50	8	9.5%
February	546	180	133	47	33%
March	573	213	138	75	38.65%
April	551	257	104	153	46.64%
May	638	209	83	126	32.75%
June	482	325	120	208	67.42%
July	581	367	123	244	63.16%
August	651	391	123	268	60%
September	623	415	139	276	66.6%
October	731	478	132	346	65.4%
November	683	508	131	377	73.37%
December	744	488	139	349	65.5%
Total	7410	3889	1415 (36.3%)	2477 (63.7%)	52.5%

18-25 years (40.52%). The rate of acceptance amongst varied parity were seen to be almost identical.

Table 3: Distribution of PPIUCD acceptors according to age and parity

Age (in years)	Accepted (Number)	Percentage (%)
18 yr-25 yrs	1576	40.52
26-30 yrs	1383	35.56
31 - 35 yrs	916	23.55
>35 yrs	14	0.35
Parity		
Primipara	1286	33.06
Para 2	1357	34.89
Multipara	1246	32.03

Analysis amongst the acceptors, based on the level of education, revealed that uneducated and primary level educated were far more in number than those who were secondary level and beyond. Hindu community contributed around 56% whereas Muslim community contributed around 44% (Table 4).

Table 4: Distribution of PPIUCD acceptors according to education and religion

Education	Accepted (Number)	Percentage (%)
Illiterate	1394	35.84
Primary	1503	38.64
Secondary	958	24.63
Higher Secondary and above	34	0.87
Religion		
Hindu	2174	56
Muslim	1715	44

Reason behind continued acceptance of PPIUCD was dependent on the level and competence of counseling regardless of the fact whether done during antenatal period, early labour or before caesarean section. As many as 61.86% cases came for follow up and out of these cases 90.77% cases showed willingness to continue PPIUCD (Table 5).

Table 5: Follow up of PPIUCD acceptors

Follow up	Number	Percentage (%)
Presented at 6 weeks	2406	61.86
Willingness to continue	2184	90.77
Spontaneous Expulsion	14	0.6
IUCD removed	8	0.33
Missing thread	139	5.77

## DISCUSSION

The postpartum period is the ideal time to begin contraception as women are more strongly motivated

to do so at this time. It is also convenient for both patients and healthcare providers. The PPIUCD is highly effective, long acting, reversible, cost effective and easily accessible family planning method. It is safe for use by most post partum women and has no adverse impact on breast feeding.<sup>4</sup>

We found that 61.1% women were aware of PPIUCD. Shahbaz F et al found in their study that 75% of women were aware of PPIUCD.<sup>4</sup> Regular awareness and sensitisation programs arranged by our post-natal unit in nearby villages and health centres helped in creating awareness about PPIUCD. In our study we found acceptance rate to be 52.5% which is quite high. This was possible because of extensive counseling by trained counselors, Nurses and doctors in antenatal clinic and in wards using pictorial flip cards and posters. Videos on family planning and PPIUCD were played in the television, installed in the antenatal clinic and ward. Kharkwal S et al also found acceptance rate of PPIUCD to be 60%.<sup>5</sup> whereas Kanhere AV et al found acceptance rate of PPIUCD insertion to be 36% which was significantly low as compared to preference to use of other methods of contraception at a later date (64%).<sup>6</sup>

In our centre majority of the PPIUCD insertions were post placental insertions (following vaginal delivery). Whereas some studies found maximum insertions to be Intra Caesarean.<sup>5,7</sup> As the nurses of our maternity ward were also given training, they did the insertions efficiently and contributed to the increase in post placental insertions.

Majority of the patients who accepted PPIUCD were of age group 18-25 years (40.25%). Katheit G et al also found acceptance rate higher in age group 21-25 years (50.88%).<sup>2</sup> But in a study by Borthakur S et al acceptance was maximum in the age group 26-30 years.<sup>7</sup>

In our study we found that para 2 women accepted PPIUCD more than the primipara. This was in concurrence with the study by Katheit et al where they found higher acceptance in para 2 clients (35.76%). Some other studies found higher acceptance in multiparous<sup>7,8</sup> whereas in another study majority (44%) of the insertions were in para 1 patients.<sup>6,9</sup>

As many as 38.64% of the PPIUCD acceptors were primary level educated which is similar to the findings of other studies where majority of the insertions were in patients who had primary level of education.<sup>5,9</sup> Jairaj S et al found acceptance to be more in those patients who had completed their secondary school level education (23.3%).<sup>10</sup> Various other studies

concluded that educational status has definitely high influence in acceptancy of PPIUCD.<sup>2,6,10</sup>

The willingness to continue this method during follow up was 90.7% in our centre which is similar to the study conducted by Shahbaz F.<sup>4</sup> Regular counselling in antenatal clinic and wards were effective in sensitizing the would-be mothers. Awareness created by our family planning staffs in villages and educating the ASHA workers and nurses in the primary care centre also helped to achieve this objective.

Expulsion rate was low (0.6%) in our study. In our centre we arranged PPIUCD workshops with hands-on-training at regular intervals to train the doctors and nurses in the PPIUCD insertion techniques. The expulsion rate in a study by Shahbaz F et al was 4.5% whereas Katheit G et al and Jairaj S found the expulsion rate to be 10.5% and 14.28% respectively.<sup>2,4,10</sup> Removal of Copper T was done in 0.33% cases in our study period for various reasons while in the study by Gautam R et al and Shahbaz F et al removal was done in 4% and 5% cases respectively.<sup>4,11</sup> In this study, 5.77% cases presented with missing threads which is similar to the findings of Kanhere AV et al where 3% cases had missing thread.<sup>6</sup>

## CONCLUSION

Awareness was quite high in our centre (61.1%) leading to more acceptance of PPIUCD (52.5%). In our centre expulsion rate was very low (0.6%).

Immediate postpartum IUCD (PPIUCD) insertion is safe, effective, cheap, long acting and reversible contraceptive method. Awareness of PPIUCD needs to be increased to have a positive impact. The likelihood of accepting PPIUCD insertion can increase with rigorous antenatal counseling and

emphasizing on regular awareness programs in rural and urban areas. With proper insertion techniques expulsion rate can be reduced to minimum.

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