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Original Research Article

## A retrospective study of post-partum intrauterine contraceptive devices in a government maternity home of Delhi

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### ABSTRACT

**Background:** Post-partum period is defined to be an ideal time for family planning counselling. Being a second largest populated country, India has a high rate of unintended pregnancy especially in post-partum women. There is a need for accessible, reliable contraception like post-partum intra uterine contraceptive device (PPIUCD) in our country. The present study is an attempt to evaluate the safety and efficacy of intra- uterine devices in post-partum women.

**Methods:** The study population included all the women who delivered vaginally who were counselled for PPIUCD insertion in prenatal period, early labour and within 48 hours of delivery and were willing to participate in the study. Participants were interviewed prior to discharge after receiving a PPIUCD and then six, ten, fourteen weeks and 6 months or earlier when necessary. Institutional ethical approval and informed consent were taken.

**Results:** A total of 1625 deliveries took place out of which only 888 were inserted PPIUCD. So, the total acceptance rate was 54.6%. Majority of cases were between the age group of 21-25 (46.4%) and most of them were primipara (39.8%). 34.8% came for routine follow up in OPD at 6 weeks, 14% at 6 months and 6.1% at 1 year.

**Conclusions:** The IUCD insertion has been proved to be a safe and effective method of contraceptive with very few side effects and no major complications. To increase the knowledge and skills among health care providers, it is necessary to arrange training on PPIUCD.

**Keywords:** PPIUCD, Contraceptive, Post-partum

### INTRODUCTION

Unmet needs for contraception have been a major hurdle to achieve desirable family planning goals in India. According to national family health survey (NFHS) 4 data, the contraceptive prevalence rate in India is 56.3% and more than 40% of the couples are not using any method of contraception.<sup>1</sup> Family planning if effectively accepted can avert nearly one-third of maternal deaths and 10% of child mortality when couples space their pregnancies more than two years apart.<sup>1</sup> Short intervals between births are linked with higher maternal and child mortality and morbidity.<sup>2</sup>

Postpartum period is a highly vulnerable period for unintended pregnancy as there are limited contraceptive options for breastfeeding mothers. Immediate postpartum is the ideal time to begin contraception as women in this period are more receptive to the family planning advice. Postpartum family planning (PPFP) is the prevention of unintended and closely spaced pregnancies through the first twelve months following childbirth.<sup>1</sup> Postpartum women need a range of effective contraceptive methods to be able to prevent an unplanned pregnancy, within a short interval.<sup>1,3</sup>

A 2010 Cochrane review concluded that PPIUCDs were a safe and effective contraceptive method. The public health benefits from PPIUCDs stemmed from the women's increased accessibility to PPIUCDs following facility births, as PPIUCDs could be offered at health facilities after childbirth. This, in turn, decreased opportunity and other costs incurred by clients who may otherwise have to return to facilities to access contraceptive services.<sup>4</sup>

According to NHF-4, In India 78.9% of deliveries are institutional delivery.<sup>5</sup> With increasing numbers of women electing to give birth in health institutions, the government of India decided to strengthen PPF and introduced PPIUCD services in a phased manner. The provision of PPIUCDs is being rapidly scaled up in India.

The government of India is promoting Institutional deliveries through programmes like Janani Suraksha Yojna (JSY). This programme scheme has increased the institutional deliveries rate and postpartum care in government hospitals. Hence It gives the health care providers an opportunity to counsel women regarding PPIUCD insertion.<sup>6</sup>

Due to dearth of research in government hospitals regarding PPIUCD insertion. Thus, the present study was planned to describe the experience of immediate postpartum IUCD in women delivering vaginally in a government maternity home. This stimulated us to analyse the PPIUCD insertions at the institute.

Through this study we aim to determine the demographic characteristics and perception and satisfaction of women with PPIUCDs, and complications that occurred after insertion of PPIUCDs. The overarching aims of this study were to inform the stakeholders about the experience of the PPIUCD program in the country and provide guidance for further scaling up of the PPIUCD program in India.

## METHODS

Women aged 15-39 years, who received PPIUCDs in government maternity home of Delhi were participated during April 2015 to March 2017.

Inclusion criteria included women who were willing to give consent for study and who delivered vaginally who were counselled for PPIUCD insertion in pre-natal period, early labour and within 48 hours of delivery.

All the women who delivered vaginally and ready for PPIUCD insertion during the study period were included in the study. So out of 1625 women who delivered vaginally, 888 women were meeting the criteria and thus were taken in the study. Data was collected from participants using a structured questionnaire. A record of follow up was maintained at the post-partum clinic. A telephonic follow up was done when a clinic visit was not

feasible or to report symptoms, expulsion of IUCD or at the convenience of the client. Participants were interviewed prior to discharge after receiving a PPIUCD and then six, ten, fourteen weeks and 6 months or earlier when necessary.

The insertion of PPIUCD was done by skilled obstetricians under asepsis after informed consent. The standard infection prevention protocols were followed. The quality of PPIUCD services provided at the centre were assessed and monitored as per the performance standards for immediate PPIUCD counselling and services. After getting institutional ethical approval women were enrolled in the study. Informed consent was taken after telling them about study in local language.

Exclusion criteria excluded anaemia (haemoglobin <10 g/dl), PPH, with premature rupture of membranes >18 hours, obstructed labour, fibroid, congenital malformation of uterus, active STD, lower genital tract infection and allergy to copper.

Data was entered into MS-excel sheet and were analyzed with SPSS V21 Software.

## RESULTS

A total of 1625 deliveries took place from 1<sup>st</sup> April 2015 to 31<sup>st</sup> March 2017 out of which only 888 were inserted PPIUCD. So, the total acceptance rate was 54.6% (Table 1) shows the demographic characteristics of clients. Majority of cases were between the age group of 21-25 (46.4%) and most of them were primipara (39.8%).

Out of 888, only 34.8% came for routine follow up in OPD at 6 weeks, 14% at 6 months and 6.1% at 1 year as shown in (Table 2). During 1<sup>st</sup> 6 weeks, 221 were telephonically asked for their experience with PPIUCD and 24 were lost to follow up. In PPIUCD recipient's expulsion was most commonly reported in 10.7% of clients. There were no cases of perforation or any other major complication. PPIUCD had no effect on lactation. There were 39 clients who came for removal of PPIUCD. Common cause for removal was pain in abdomen.

**Table 1: Baseline socio-demographic and obstetric profile of women.**

Age (year)	N (%)
15-20	79 (8.9)
21-25	412 (46.4)
26-30	289 (32.5)
31-35	86 (9.6)
>=36	22 (2.5)
<b>Parity</b>	
Primipara	354 (39.8)
Para-2	324 (36.5)
Para-3	171 (19.3)
para >=4	39 (4.4)

As shown in table 1.46.4% of cases were between the age group of 21-25 years followed by 32.5% in 26-30 years. Majority of women were primipara (39.8%).

Table 2 depicts the follow up details of clients; 34.8% women were able to complete follow up within 6 weeks whereas only 6.1% were able to complete 1 year.

**Table 2: Follow up details of clients.**

Total PPIUCD inserted	Follow-up within 6 weeks (%)	Follow-up at 6 month (%)	Follow-up at 1 year (%)
888	306 (34.8)	124 (14)	54 (6.1)

Table 3, reported that most common complication among clients at 6 weeks was expulsion (10.7%) followed by removal (9.9%) and pain (7.1%).

**Table 3: Complications among the clients at 6 weeks.**

Complains	N (%)
Expulsion	95 (10.7)
Bleeding	43 (4.8)
Pain	63 (7.1)
Removal	88 (9.9)
Infection	31 (3.5)

Table 4, shows that failure rate of PPIUCD were seen in only 0.3% of the women.

**Table 4: Failure rate of PPIUCD (pregnancy with PPIUCD *in-situ*) in the study.**

Failure rate of PPIUCD	N (%)
Pregnancy	3 (0.33)

In Table 5, pain abdomen (4.8%) was one of the most common reason for removal followed by bleeding (3.5%) and string problem (0.76%).

**Table 5: Reasons for removal.**

Reasons	N (%)
Bleeding	31 (3.5)
Pressure from family	4 (0.51)
Pain abdomen	43 (4.8)
String problem	7 (0.76)
Wants tubal ligation	3 (0.335)

## DISCUSSION

Out of all women who are present in the study, the total acceptance of 888 women were observed. Highest rate of acceptance was observed among age group of 21-25 years (46.4%), which is comparable with other studies done by Katheki et al and Mishra whereas in a study by Maluchuru et al from Guntur, the highest rate of

acceptance was among age group of 30-39 years (27.67%).<sup>12,13</sup>

In this study, the acceptance was higher in primipara (39.8%) contrary observation was found in a study in North India, by Shukhla et al where the acceptance was higher in multipara (68.33%).<sup>14</sup>

Studies by Grimes and Borthakur et al GMCH Assam also found higher acceptance among multipara. Goswami et al also found higher acceptance (48%) among multipara, whereas Maluchuru, Mishra, Gautam and Vidyarama et al found a higher acceptance in primipara which were 15.42, 13.76, 71.91 and 15.47% respectively.<sup>12,13,15-19</sup>

Due to lack of knowledge and awareness most women in the community were not aware of the PPIUCD. In the present study most, women were counselled regarding PPIUCD during the postnatal period because it was only an opportunity to provide women with information about PPIUCD. The hospital being a government centre and the maximum number of women delivered in our hospital were for the first time. PPIUCD is a relatively new method of contraception in this community.

In this study the most common reason for removal is pain in the abdomen (4.8%) followed by bleeding (3.5%). Only 0.76% had removal due to string problems. Similarly, findings were reported in Maluchuru et al found bleeding (27.27%) to be the most common reasons for removal.<sup>15</sup> In this study, a higher rate of expulsion was observed about (10.7%) when compared to other studies. Similar rate of expulsion of 10.7% by six months was reported in a study of 1317 women in north India.<sup>21</sup> A rate of 5.6% expulsion was reported among 210 women in a clinic in Hubli, Karnataka state in India.<sup>20</sup> A Higher expulsion rate of around 9-16% have been reported in some studies.<sup>23,24</sup> Studies published in nineties and early 2000 reported rates of about 9-13%.<sup>7-9</sup> However, lower expulsion rates have been reported more recently with improvements in insertion technique.<sup>10,11</sup>

There was no case of perforation and misplaced IUCD reported in our study. According to global health technical few reports addressing the relative safety of immediate post-partum insertion.<sup>24</sup>

Hence, PPIUCD was reported to be one of the safe and effective methods.

Follow up was found to be 34.8% within 6 weeks, 14% at 6 months and 6.1% at 1 year. These declined findings reported poor integration of vertical programs at all levels. The mindset of "insert, report and forget" needs to be changed by "counsel, report, insert, follow up and report".

## CONCLUSION

To conclude, this study found a good acceptance of PPIUCD among women participants. There was no case of Perforation reported. Thus, immediate postpartum IUCD insertion appears to be a safe and effective method of contraceptive with very few side effects and no major complications.

To improve the acceptance regarding PPIUCD, the community should be educated. Myths and fear associated with IUCD usage and public awareness regarding the concept of PPIUCD need to be improved. To increase the knowledge and skills among health care providers, it is necessary to arrange training on PPIUCD. This will further promote PPIUCD use and aid in reduction in the expulsion rate.

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