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Original Research Article

## A retrospective analysis on acceptability and complications of PPIUCD insertion

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### ABSTRACT

**Background:** In India, 65% of women in the first year postpartum have an unmet need for family planning but only 26% of women are using any method of family planning during the first year postpartum. This leaves a huge gap which needs to be addressed if maternal health is to be optimized. This calls for a method which is both effective and acceptable immediately post-partum. This is where the role of PPIUCD needs to be studied.

**Methods:** This study was a retrospective observational study conducted in a tertiary care hospital. All deliveries during the time period from September 2016 to August 2017 were included in the study and the women accepting PPIUCD were studied for analysed for their age, parity, booking status and complaints during the follow up visit.

**Results:** A total of 13,039 deliveries took place in one year between Sept 2016 to Aug 2017 out of which, 1118 (8.6%) accepted PPIUCD as a method of contraception. 44.3% PPIUCD users were in the age group of 21-25 years. 57% of PPIUCD users were primigravidas. 84% of PPIUCD users were booked cases. Missing threads was the most common complication, with 8.4% patients reporting it at follow up. There were no major complications noted in the study.

**Conclusions:** PPIUCD is a safe and effective long acting reversible contraception method. Is particularly beneficial in a setting where women do not return for contraceptive advice. With low expulsion rates and high continuation rate, authors can conclude that PPIUCD can be the solution to a country like India currently facing population crisis and high unmet need.

**Keywords:** Contraception, Post-Partum, PPIUCD

### INTRODUCTION

India is the second most populated country in the world and is soon about to overtake China in terms of population. The ever- expanding population also puts a strain on the economic and medical resources of the country. This calls for an urgent need for measures to contain and control our growing population. Contraceptive usage is the first and most effective way of achieving our goals while also assuring better maternal and perinatal outcomes.<sup>1</sup> It has been noted that contraception use can avert nearly one-third of maternal

deaths and 10% of childhood mortality if couples space their pregnancies more than 2 years apart.<sup>1</sup>

In spite of massive propaganda by the government to educate the masses about various means of contraception, this resource remains largely untapped in this country. As per the WHO Technical Committee, 2006, the recommended spacing between a birth to next pregnancy is at least 24 months and between abortions to next pregnancy should be at least 6 months.<sup>2</sup> An estimated 61% of births in India occur at intervals that are shorter than the recommended birth interval of approximately 36

months, adding to a myriad of maternal and infant related health problems.<sup>3</sup>

The post-placental intra-uterine contraceptive device (PPIUCD) is a long acting reversible contraceptive method which is well suited to the current contraceptive demand in the Indian scenario. If utilised to its full potential, it will be an effective means to meet the unmet need for contraception in our country. Since maximum number of deliveries are now being institutionalised owing to various government programs, it is only logical to tap the opportunity this situation provides us.<sup>4</sup> Since women are in direct contact with the health care worker, a PPIUCD insertion is both convenient and cost effective and can be easily adopted in the current healthcare infrastructure without any added investment.

## METHODS

This is a retrospective study conducted at Lady Hardinge Medical College and Smt Sucheta Kriplani Hospital, New Delhi. All deliveries that were conducted in this hospital from 1<sup>st</sup> September 2016 to 31<sup>st</sup> August 2017 were included in present study. Routine ante-natal counselling of all patients is carried out in our ANC clinic and the preferred mode of contraception is mentioned on their card. Patients who are referred to our hospital for delivery are counselled for contraception during early labour.

Women who had accepted PPIUCD after delivery (vaginally or by lower segment caesarean section) were included in this study. All pre-requisites of PPIUCD insertion were followed in each case, namely the WHO medical eligibility criteria.<sup>5</sup> Women who had fever, chorio-amnionitis, prolonged leaking (>18 hours), uterine anomaly and post-partum haemorrhage were excluded since they did not fit the eligibility criteria for PPIUCD insertion.

Patients were analysed for their age, parity, booking status and complaints during the follow up visit. The entire PPIUCD- inserted patients were followed up to 6 weeks and 6 months after delivery. With the help of data collected, relevant parameters and data were critically analysed in present study.

The study was designed with the aim to study the acceptance level of Post-Placental Intrauterine Contraceptive Device (PPIUCD) insertion among women attending tertiary level hospital. Authors aimed to evaluate PPIUCD as a method of contraception for alleviating the unmet needs of the population. The complications that may arise secondary to PPIUCD insertion were also studied in detail. This holistic evaluation was done in order to better understand the acceptability of this method of contraception and the various problems that may arise because of it. This will help us formulate policies so as to deliver this method in a more acceptable way while also ensuring that corrective

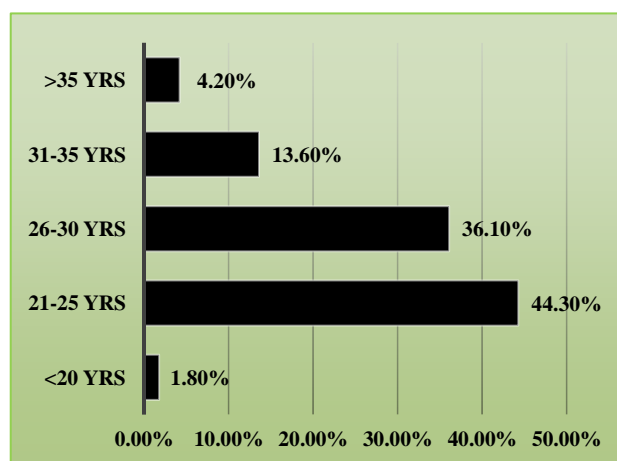
measures are incorporated so as to reduce the complications that may arise.

## RESULTS

A total of 13,039 deliveries took place in one year between 1<sup>st</sup> September 2016 to 31<sup>st</sup> August 2017. 9111 patients delivered vaginally whereas 3928 patients underwent a caesarean section. All patients received contraceptive counselling either antenatally or during early labour.

1118 (8.6%) accepted PPIUCD as a method of contraception. Of the total patients accepting PPIUCD, 573 had delivered vaginally accounting for 6.28% of vaginal deliveries. 13.87% of all patients undergoing a LSCS accepted a PPIUCD. Looking at the month wise distribution, the rate of PPIUCD acceptance in patients undergoing LSCS was more or less constant at 13.86% throughout the time period of the study except for the last month i.e. August 2017 when the acceptance rate rose to 17.27%. In contrast, the acceptance rate of PPIUCD for patients who delivered vaginally showed a gradual increase over the time period. It was 3.04% to start with and increased to 9.2% in the last month of the study, signalling a constant increase in acceptance rate.

The rates of acceptance were also studied in relation to the age group of the patients. It was found that the age group of 21-25 years had the maximum acceptance rate. 44.3% of all acceptors were in the age group of 21-25 years, followed closely by the age band of 26-30 years which comprised of 36.1% of all acceptors. The age distribution is depicted in Figure 1.



**Figure 1: Age wise distribution of acceptance.**

57% of all PPIUCD acceptors were primigravida. 84% of all PPIUCD acceptors were booked at our hospital. Patients were followed up for up to 6 months and their complaints documented. Table 1 details the various complications that were documented during the follow up visit.

**Table 1: Complaints at follow up visit.**

Complaints	No. of patients	Percentage
Bleeding per vaginum	71	6.3
Pain in abdomen	53	4.7
Missing threads	94	8.4
Expulsion	32	2.86

11 patients (0.9%) requested removal of IUCD at follow up. There was no instance of uterine injury or sepsis.

## DISCUSSION

Present study shows a good PPIUCD acceptance rate of 8.6%. It is well above the national average for PPIUCD acceptance. In the study conducted by Safwat et al, 3,541 clients were counseled out of which 188 clients (5.3%) had actual insertion of IUCD in immediate postpartum period.<sup>6</sup> As seen in present study, all patients who attended the ANC clinic or the emergency services were given contraceptive advice and the option of PPIUCD insertion. This is in contrast to the other studies wherein a sample is selected for counselling and then followed up. Present study shows a consistently increasing trend in acceptance of PPIUCD. Whereas this highlights the rise in awareness and the steady incorporation of PPIUCD as a contraceptive, it also underlies how the counselling services have gradually improved and adapted to fit the population needs and acceptability.

It was found that the acceptability was higher in women undergoing LSCS as compared to those undergoing a vaginal delivery. It's possible that the event of a major surgery sensitizes these women to the need of contraception. But the increase in acceptability was more notable in the post vaginal delivery group, showing increased sensitization of women over the time period. It shows how counselling in a proper and timely manner can educate people and allay their fears and misconceptions, thereby helping them to make informed choices regarding their health.

The percentage of booked patients accepting PPIUCD was higher than unbooked in this study, thereby reaffirming the importance of counselling. The booked patients had more time to contemplate this option of contraception, thereby resulting in better acceptance when compared to the unbooked cases. In present study the acceptance was higher in primigravidas. This is probably because of the long acting and reversible nature of contraception provided, that this method is now being favored for spacing. Study conducted by Mishra S et al, and Anjali et al also had similar observations.<sup>7,8</sup> Additionally, Mishra S et al also noted that the acceptability was higher among women who had previously closely spaced pregnancies.<sup>7</sup> This again brings to point the fact that PPIUCD is now gaining favor among women as a contraceptive of choice for spacing their pregnancies, especially among those who have experienced first-hand the drawbacks and health hazards

of having closely spaced child-births. This in turn will amount to adequately spaced deliveries, allowing the woman to recuperate from her previous labour. As a consequence, a healthy pregnant mother will lead to birth of a healthy neonate, thereby curbing to some extent the rampant problem of maternal and neonatal morbidity and mortality. Thus, PPIUCD is a convenient and efficient resource that can help us in realizing our national health goals.

Complaints of irregular or excessive bleeding were registered in 6.3% of cases at follow up visit, which is similar to study by Kittur S et al who reported a 6.19% rate at follow-up.<sup>9</sup> Mishra S et al also reported bleeding to be the most common complaint.<sup>7</sup> But they pointed out that most patients responded to reassurance alone. Hence counselling is not a one-point event but a continued process which is required to ensure the continuity of use by the patient. Pain in abdomen was present in 4.7% at follow up in this study whereas it was 8.3% in a study by Sudha CP et al.<sup>10</sup> Expulsion rate in present study was 2.86% which is low and comparable to the above study. All in all, the risk of any major complication was negligible.

## CONCLUSION

PPIUCD is a safe and effective long acting reversible contraception method. It is particularly beneficial in a setting where women do not return for contraceptive advice. With such low expulsion rates and high continuation rate, authors can conclude that PPIUCD can be the solution to a country like India currently facing population crisis and high unmet need.

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