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Research Article

Changing trends in intrauterine contraceptive device: from interval intrauterine contraceptive device to postpartum intrauterine contraceptive device: a prospective observational study in a tertiary care hospital in eastern Uttar Pradesh

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ABSTRACT

Background: The current outburst of Indian population (1.21 billion as per census 2011) is because of the lack of awareness and acceptance of contraception in the immediate postpartum period. Postpartum intrauterine contraceptive device (PPIUCD) insertion can do wonders and curb this unmet need of family planning if good counselling and proper insertion techniques are followed.

Methods: The present study was carried among 526 women in the department of obstetrics and gynaecology of Nehru Hospital in BRD medical college Gorakhpur, India. Intrauterine contraceptive device (IUCD) was inserted in 424 women in PPIUCD group and in 102 women in interval IUCD group after taking proper consent and following the WHO medical eligibility criteria for contraceptive use (MEC). Follow-up was done at 6 weeks and 6 months.

Results: The acceptance rate of PPIUCD was 30.34% as compared to 18% in interval IUCD group (p-value <0.05). The chief reason for declining the use of IUCD was fear of excessive pain and bleeding (26.3%). Long term reversible method (32%) was the main reason given for accepting IUCD. There was no perforation or any other major complication at the time of insertion in both the groups. Rate of expulsion was 5.7% in PPIUCD and 2.22% in interval IUCD group p-value (>0.05).

Conclusions: PPIUCD is a safe, effective, feasible and reversible method of contraception. It should be made a part of family health care programmes in India.

Keywords: PPIUCD interval IUCD acceptance expulsion

INTRODUCTION

The current outburst of Indian population (1.21 billion as per 2011 census) is because of the lack of awareness and acceptance of contraception in the post-partum period. Curbing this alarming rise in population is an area of immediate concern for the health policy makers. In India, around 65% of women in the first year postpartum have an unmet need for family planning.¹ Postpartum family planning services are ideal way to reposit family planning back in India. PPIUCD is one of the most effective, long term and reversible family planning method. PPIUCD

can reduce the number of unintended pregnancies and abortion related complications. The objective of the study was to know the acceptance rates of post-partum IUCD, to know the reasons for discontinuation of PPIUCD in follow up period, to study the side effects and complications of PPIUCD and to compare PPIUCD with interval IUCD with respect to above.

METHODS

The present study was carried among 526 women in obstetrics and gynaecology department of Nehru hospital

of BRDMC Gorakhpur, India from 1st June 2014 to 31st May 2015. It was a prospective study done with the aim to assess the acceptance, safety, complications and rate of removal of PPIUCD in comparison to interval IUCD.

Data collection was done from 1st August 2014 to 31st March 2015 i.e. a period of 8 months. 424 women in PPIUCD group, 188 in vaginal delivery group and 158 in trans-caesarian delivery group. 102 women in interval IUCD group.

IUCD were inserted under full asepsis and with proper insertion techniques keeping in mind WHO MEC (medical eligibility criteria).¹²

At 6 week and 6 month follow up visits, history and clinical examination were repeated as per the predesigned proforma.

RESULTS

Total numbers of women, eligible for PPIUCD were 1398 after applying WHO MEC. Out of which 424 women accepted insertion of PPIUCD. Thus, the acceptance rate was 30.34%. Total women eligible for interval IUCD were 562. IUCD was inserted in 102 women i.e. acceptance rate is 18%. Overall, the acceptance rate of PPIUCD was significantly higher than interval IUCD (p-value <0.05).

Majority of the women who accepted PPIUCD belonged to the age group 26-30 years (44%). In primiparous women, PPIUCD is a highly preferred method (45%) over interval IUCD (20%) which indicates its use as a method of spacing. Majority of women included in the study had a minimal primary education (42 % in PPIUCD and 48% in interval IUCD).

The chief reason for declining IUCD use was fear of excessive pain and bleeding (26.3%) and refusal by partner or family (18.9%). Long term reversible method (32%) and high efficacy (21%) were the main reasons given for accepting IUCD. There was no perforation or any other major complication at the time of insertion in both the groups. Majority of women in both the groups had easy insertion (97.17% in PPIUCD and 82.3% in interval IUCD group). Only 2.8% women in PPIUCD group and 17.6% women in interval IUCD group had difficulty at the time of insertion which is statistically significant (p-value <0.05).

Expulsion rate of PPIUCD was 5.7% which is comparable to that of interval IUCD i.e. 2.22% (p-value >0.05) which signifies that with good insertion techniques and with trained insertors the expulsion rate of PPIUCD can be lowered. Spontaneous expulsion was seen in 16 (8.5%) women in vaginal delivery group and 4 (2.5%) women in transcaesarian group which is significant statistically (p-value <0.05). This lower expulsion rate after transcaesarean insertion as compared

to vaginal insertion may be due to direct placement of IUCD at the fundus during caesarean section.

17.9% (62/346) women in PPIUCD and 14.4% (13/90) women in interval group had some side effects. Excessive bleeding per vaginum (40.3%) was the main side effect in PPIUCD group whereas it was present in 30.7% in interval IUCD group. On the other hand, excessive discharge per vaginum (38.4%) was the chief complaint in interval IUCD group.

38 (10.9%) women got their IUCD removed in PPIUCD group in comparison to 15 (16.6%) women in interval group (p-value >0.05). The demand for IUCD removal was mainly for the complaint of excessive discharge p/v in interval IUCD (36%) and excessive vaginal bleeding (35%) in PPIUCD group. Continuation rates over a follow up period of 6 months were 83.2% in PPIUCD group and 81.1% in interval IUCD group (p-value >0.05). The continuation rates in transcaesarian group were statistically significant than vaginal group (p-value <0.05).

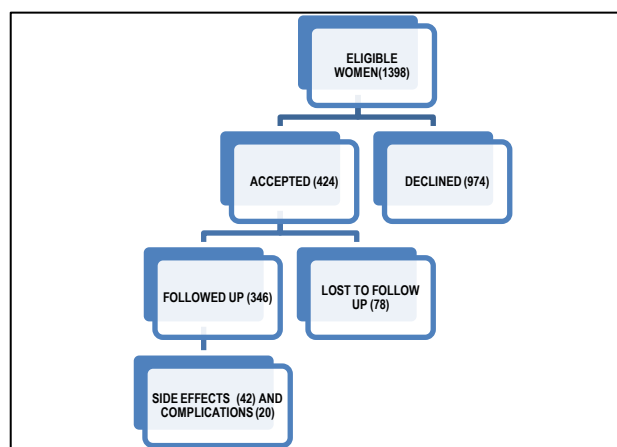


Figure 1: Flow chart showing recruitment of women and follow up of PPIUCD group.

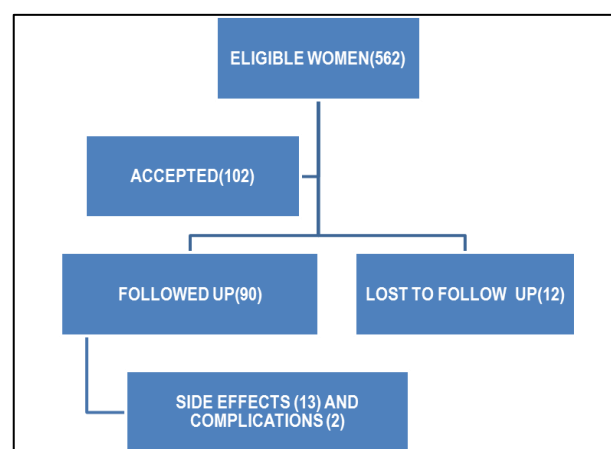


Figure 2: Flow chart showing recruitment of women and follow up in interval IUCD group.

Table 1: Reasons for refusal of IUCD insertion by the women and their respective distribution.

Reasons for refusal of IUCD	No.	%
Prefer to choose another method	89	9.1
Satisfied with previous method	126	12.9
Partner living outside	116	11.9
Fear of pain and heavy bleeding	257	26.3
No reason	29	2.9
Religious beliefs	87	8.9
Fears cancer	9	0.09
Interfere with sex life	18	1.8
Don't get pregnancy early	58	5.9
Family and partner refusal	185	18.9
Total	974	100

Fear of excessive pain and bleeding (26.3%) was the main reason given by the women for refusal of IUCD insertion (Table 1).

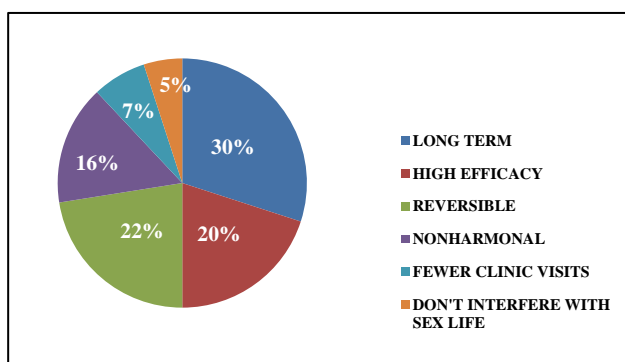


Figure 3: Reasons for accepting IUCD as a method of contraception.

Figure 3 was showing reasons for accepting IUCD as a method of contraception. The long term contraceptive effect (30%) of IUCD was the main reason given by the women under study.

Table 2: The ease of insertion of PPIUCD and interval IUCD among the women.

	PPIUCD (No.)	%	Interval IUCD (No.)	%
Easy	412	97.17	84	82.3
Difficult	12	2.8	18	17.6
Complication	0	0	0	0
TOTAL	424	100	102	100

In Table 2, there was no complication at the time of insertion in both the groups. Table 3 shows the different type of side effects and their respective distribution in both groups.

Table 3: Shows the different type of side effects and their respective distribution in both groups.

Side effects	PPIUCD (No. (%))	Interval IUCD (No. (%))
Excessive bleeding p/v	25 (40.3%)	4 (30.7%)
Short cycles	20 (32.2%)	3 (23%)
Discharge p/v	13 (20.9%)	5 (38.4%)
Pain abdomen	9 (14.5%)	1 (7.7%)
Total	62	13

Table 4: The placement of IUCD in the follow-up visits.

	PPIUCD (No. (%)) (n=346)	Interval IUCD (No. (%)) (n=90)
IUCD in place (strings visualized)	306 (88.4%)	84 (93.33%)
IUCD strings not visualized	34 (9.8%)	5 (5.5%)
Partial expulsion	6 (1.7%)	1 (1.1%)

Table 5: USG findings in case of non-visualization of strings.

USG findings	PPIUCD (No. (%)) (n=34)	Interval IUCD (No. (%)) (n=5)
IUCD present	14 (41.1%)	3 (60%)
IUCD absent	20 (58.8%)	2 (40%)

Table 6: Timing of expulsion of IUCD in both the groups.

Time	Vaginal PPIUCD group	Trans-caesarean PPIUCD group	Interval group
Within 7 days	5	1	0
Between 7 days to 6 weeks	9	2	2
After 6 weeks	2	1	0
Total	16	4	2

Table 7: Continuation rates in both the groups at 6 months.

Type of IUCD	Removal	Expulsion	Continuation rates
Vaginal PPIUCD (n=188)	25	16	147 (78%)
Transcaeserean PPIUCD (n=158)	13	4	141 (89%)
Interval (n=90)	15	2	73 (81%)

DISCUSSION

The acceptance rate of PPIUCD was 30.34% and of interval IUCD was 18% (p-value <0.05). These high levels of acceptance were even despite lack of awareness, ignorance and lot of misconceptions regarding PPIUCD in the community. Majority of the women who accepted PPIUCD belonged to the age group 26-30 years (44%). This was probably because most of the women who came to the hospital for delivery also belong to age group 26-30 years. This was similar in comparison to study of Rukiya et al which showed around 42.6% women belonging to the same age group.² In primiparous women, PPIUCD is a highly preferred method (45%) over interval IUCD (20%) which indicates its use as a method of spacing. This is contrary to the finding of Grimes et al where they found higher acceptance in multiparous clients (65.1%).³ IUCD is less popular in multigravidas in this area as these women are more inclined towards permanent method of sterilisation like tubectomy.

Majority of women included in the study had a minimal primary education (42 % in PPIUCD and 48% in interval IUCD). It shows that education plays a pivotal role in understanding of contraceptive methods and choosing the right method by the client. However, around 30% illiterate women also accepted IUCD as a method of contraception because of the good counseling and constant motivation done from the antenatal period. Our findings therefore suggest that sensitizing a women regarding family planning from the very beginning can increase the acceptance of IUCD significantly. This was similar to a study done by Safwat et al where women with no formal education had an acceptance of 9.4% while those with formal education were 19.4%.⁴

The chief reason for declining IUCD use was fear of excessive pain and bleeding (26.3%) and refusal by partner or family (18.9%). This reveals the importance of partner's involvement during family planning counseling and decision making. Counselling of couples right from the antenatal period must be made part of our routine antenatal check in order to sensitize them from the very beginning. Long term reversible method (32%) and high efficacy (21%) were the main reasons given for accepting IUCD.

There was no perforation or any other major complication at the time of insertion in both the groups. This is in accordance with the study of Rosales et al and El Beltagy et al where no perforations were observed.^{5,8}

Majority of women in both the groups had easy insertion (97.17% in PPIUCD and 82.3% in interval IUCD group). Only 2.8% women in PPIUCD group and 17.6% women in interval IUCD group had difficulty at the time of insertion which is statistically significant (p-value <0.05). Expulsion rate of PPIUCD was 5.7% which is comparable to that of interval IUCD i.e. 2.22% (p-value >0.05) which signifies that with good insertion

techniques and with trained insertors the expulsion rate of PPIUCD can be lowered. Rosales F et al in their study found expulsion rate of 16% and 2% for PPIUCD and interval IUCD respectively.⁵ In our study, spontaneous expulsion was seen in 16 (8.5%) women in vaginal delivery group and 4 (2.5%) women in trans-caesarian group which is significant statistically (p-value <0.05). This lower expulsion rate after trans-caesarean insertion as compared to vaginal insertion may be due to direct placement of IUCD at the fundus during caesarean section.

17.9% (62/346) women in PPIUCD and 14.4% (13/90) women in interval group had some side effects. However, there was no major complication in both the groups similar with the study of Eroglu et al where the rates of complications did not differ significantly between the two groups.⁶

Excessive bleeding per vaginum (40.3%) was the main side effect in PPIUCD group whereas it was present in 30.7% in interval IUCD group. On the other hand, excessive discharge per vaginum (38.4%) was the chief complaint in interval IUCD group and it was seen in 20.9% women in interval group whereas Celen S et al reported cumulative rates of bleeding equal to 11.4% and 8.2% respectively in PPIUCD and interval IUCD group.⁷

9.8% women in PPIUCD and 5.55% women in interval group complaint of missing strings. After doing per speculum examination and USG for localization of IUCD, expulsion was confirmed in 20 women of PPIUCD and 2 women of interval IUCD group. No case of PID or endometritis reported in our study. EL Beltagy et al also reported no increase in the incidence of PID after immediate postpartum IUCD insertion.⁸

Thirty-eight (10.9%) women got their IUCD removed in PPIUCD group in comparison to 15 (16.6%) women in interval group (p-value >0.05). Zhou SW et al showed the removal rate of 4.6% and 4.2% for vaginal PPL and trans-caesarean PPL respectively.⁹

The demand for IUCD removal was mainly for the complaint of excessive discharge p/v in interval IUCD (36%) and excessive vaginal bleeding (35%) in PPIUCD group which were similar in comparison to other studies of Rukhiya et al, whereas the study of Iyenger et al showed that main reasons for removal were child death and family apposition.^{2,10}

Continuation rates over a follow up period of 6 months were 83.2% in PPIUCD group and 81.1 % in interval IUCD group (P-value >0.05). In PPIUCD group, continuation rates were higher in trans-caesarian route (89%) in comparison to vaginal route (78.4%) (P-value <0.05) which is similar to the study of Celen et al who came out with continuation rates of 87.6% for PPIUCD.⁷ Tatum et al showed continuation rates of

around 80% in PPIUCD after 6 months of insertion in their study.¹¹

CONCLUSION

There is lack of awareness and lot of misconceptions regarding PPIUCD in the community. Despite this the acceptance rate was significantly high in our study. This shows the importance of good counselling from the antenatal period. Still there is need to develop strategies to increase public awareness of the PPIUCD through different media sources.

In the study, primigravida had greater acceptance of the PPIUCD. However, multigravidas are more driven towards permanent method of contraception like tubectomy. The government policies should focus on promoting PPIUCD as a long term, reversible method of contraception as it is more cost effective than sterilization.

Acceptance was higher among women who had minimal primary education which reflects that education has a pivotal role to play in the understanding and acceptance of contraceptive measures. Higher rate of expulsion were seen in PPIUCD as compared to interval though not statistically significant. Continuation rates over a follow up period of 6 months were higher in PPIUCD (83.2%) than interval IUCD (81.1%). Continuation rates in trans-caesarian group were significantly higher than vaginal group.

Hence, we can conclude that PPIUCD is a safe, effective, reversible, long term method of contraception and it should be promoted as a method of long term reversible contraception in India. It should be a part of maternal/newborn/reproductive health package and we as a health care provider should utilize JSY (Janani Suraksha Yojna) scheme to decrease the unmet need of contraception in women delivering in our hospital.

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Conflict of interest: None declared

Ethical approval: The study was approved by the Institutional Ethics Committee

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