



LONG TERM CLINICAL OUTCOME OF POST PARTUM INTRA UTERINE CONTRACEPTIVE DEVICE (PPIUCD) INSERTION

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ABSTRACT

Background: Majority of women are in need of effective contraceptive method for spacing. The unmet need for contraception results in unintended pregnancies, with increased maternal and neonatal complications. PPIUCD insertion is an effective contraceptive method, reduces unintended pregnancy and decreases health care cost expenditure.

Objective: This study aims to evaluate long term complications like bleeding, pain, expulsion rate, perforation, infection, missing strings and continuation rate.

Method: This prospective observational study was carried out in a tertiary care hospital in Chennai, between Jan 2012 – June 2012. CuT 380A was inserted immediately following placental delivery in caesarean section or in normal delivery or within 48 hours of normal delivery. They were followed up at the time of discharge, at 6 weeks, then at 6 monthly intervals till 30 weeks.

Results: A total of 300 PPIUCD acceptors were followed up for 30 months. Most of our acceptors are primipara group (n=199, 66.4%). Most of the insertions are in caesarean deliveries. (n=235, 78.3%), followed by post placental insertions (n=42, 13%) and immediate post partum (n=23, 7.7%). Continuation rate is high 90.7 % (n=272) at the end of 1 year and 84.3% at the end of 30 months. Expulsion rate was 4.7%, bleeding in 8.7%, pain in 8.4% and infection in 1% of acceptors. Removal rate at 30 months was 11%, majority of the removal was for opting to go for permanent method of sterilization (n=19, 6.33%), followed by planning for 2nd child (n=7, 2.3%). Pain was the cause for removal in only 0.67%, bleeding in 1.67%.

Conclusion: PPIUCD is safe and effective method of contraception with high continuation rate, low expulsion and complication rates.

Key Words: Post partum, Contraception, PPIUCD

INTRODUCTION

Post partum contraception can reduce one third of maternal deaths and 10% of neonatal mortality when pregnancies are spaced two years apart (1). Studies show that pregnancies within 24 months of previous birth have high risk of abortions, preterm births, low birth weight babies, post partum haemorrhage, maternal mortality and neonatal mortality. In India 61% of births were spaced less than three years. Unmet need is greater in first year of post partum (2). Only 3-5% of post partum women want another child within 2 years. So provision of IUCD in the immediate post partum period offers effective and safe method of contraception (3).

The copper T 380 A is approved for 10 years. It is a cost effective, non-hormonal method. According to WHO Medi-

cal Eligibility Criteria IUCD be inserted within 48 hours of postpartum which is here referred as postpartum IUCD (PPIUCD). Insertion of copper T380A in postpartum period (PPIUCD) saves time and additional visits. There is reduced risk of perforation due to thick walled post partum uterus, reduced perception of bleeding and pain. Breast feeding does not get affected by PPIUCD. Women have been provided an effective method of contraception before discharge from the hospital. Women are highly motivated and more receptive to accept family planning in the immediate post partum period (4).

By 2013, 19 states in India have started implementing PPIUCD insertion under National post partum family planning programme. Govt. of India is promoting institutional

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deliveries through programmes like Janani Suraksha Yojna (JSY). This conditional cash transfer scheme has expanded the accessibility of women to seek facility delivery and post partum care. The increased institutional deliveries give the health care providers an opportunity to effectively counsel and motivate for PPIUCD insertion (2).

While follow up data on complications with PPIUCD insertion are available from international sources, given the scale of PPIUCD insertion in India, it is important to generate data on long term complications and continuation rate.

Objective: This study aims to evaluate long term complications and continuation rate in women, who accepted PPIUCD insertion in a tertiary care centre.

METHODS AND MATERIALS

It is a prospective observational study carried out in a tertiary care center for a total number of 300 willing patients who accepted this contraceptive (PPIUCD) under national post partum family planning programme between Jan 2012 – June 2012 and these patients were followed up to two and a half years. Women were enrolled in the study after standardized written consent in the local language. Participants were interviewed prior to discharge after receiving a PPIUCD, at six weeks and then at 6 monthly intervals till two and a half

years post insertion.

Inclusion criteria:

1. Age >18 years, < 40 years
2. Delivery at term(both labour natural and caesarean deliveries)
3. Within 48 hours of delivery(immediate post placental, immediate post partum)

Exclusion criteria:

1. PROM> 18 hours
2. Preterm labour
3. Uterine anomalies, fibroid uterus
4. Ante partum haemorrhage
5. Post partum haemorrhage
6. Immediate ante partum, intrapartum and post partum fever

RESULTS

(i) Age group:

In our study most (n=176,58.6%) of the PPIUCD acceptors are in the age group of 20-24 years, followed by 25-29 years age group(n=80,26.6%), who are the active reproductive age women. 7.3% of women in the age group of 20-24 years and 6.3% in the age group of 25-29 years discontinued PPIUCD during our follow up period.

Table 1

Age group(years)	Total acceptors	%	Continuing (PPIUCD)	%	Discontinued (ppiucd)	%	Chi square	P value
18-19	24	8	22	7.3	2	0.7	6.553	0.088
20-24	176	58.6	154	51.3	22	7.3		
25-29	80	26.6	61	20.3	19	6.3		
30 and above	20	6.6	16	05.3	4	1.3		

(ii) Parity:

Since IUCD is a long-term, non hormonal reversible spacing contraceptive, most of the acceptors are primipara group (n=199, 66.4%), of which 6.7% discontinued.

Table 2

Parity	Total acceptors	%	Continued (ppiucd)	%	Discontinued (ppiucd)	%	Chi square	P value
1	199	66.4	179	59.7	20	6.7	25.485	0.001
2	94	31.3	72	24	22	7.3		
3	07	02.3	05	1.7	02	0.7		

(iii) Educational status of acceptors: Most (n=282, 94%) of the acceptors are literates.

Table 3

Educational status	No. of acceptors	%	Continued (ppiucd)	%	Discontinued (ppiucd)	%	Chi square	P value
illiterate	18	6	15	5	3	1	2.326	0.802
primary	27	9	22	7.3	5	1.7		
secondary	181	60.3	150	50	31	10.3		
H.Secondary	40	13.4	35	11.7	5	1.7		
Diploma/ degree	29	9.7	26	8.7	3	1		
professional	05	1.6	5	1.6	0	0		

(iv) Educational status of partners: Among the partners of acceptors, 95.3 % (n=286) are literate, who are actually the decision makers in Indian society.

Table 4

Educational status of husband	No. of partners	%	Continued (ppiucd)	%	Discontinued (ppiucd)	%	Chi square	P value
illiterate	14	4.7	14	4.7	0	0	6.179	0.289
primary	12	4	09	3.0	3	1		
secondary	205	68.3	174	58	31	10.3		
H.Secondary	31	10.3	24	8	7	2.3		
Diploma/ degree	31	10.3	25	8.3	6	2		
professional	07	2.3	7	2.3	0	0		

(v) Category of acceptors: Most of the insertions are in caesarean deliveries. (n=235, 78.3%), followed by post placental insertions (n=42, 13%) and immediate post partum (n=23, 7.7%).

Table 5

Group	No of acceptors	%	Continuation (ppiucd)	%	Discontinued (ppiucd)	%	chisquare	P value
Post placental	42	14	38	12.7	4	1.3	5.539	0.136
Post partum	23	7.7	16	5.4	7	2.3		
Intra caesarean	235	78.3	199	66.3	36	12		
Total	300	100	253	84.3	47	15.7		

(vi) Continuation rate:

Table 6

Duration	Continuation	%	Discontinued	%
9 months	296	98.7	4	1.33
12 months	272	90.7	24	8
18 months	271	90.3	1	0.33
24 months	253	84.3	18	6
30 months	253	84.3	0	0
Total(at 30 months)	253	84.3	47	15.7

At 30 months of our follow up study, 84.3% (n=253) of acceptors continued IUCD and in 15.7% (n=47) discontinued because of various reasons which is discussed below.

(vii) Complications:

(a) Bleeding: Most of the acceptors (n=273, 91%) had no altered menstrual flow pattern. Excessive bleeding pattern was observed in (n=26) 8.7% of the acceptors, of whom heavy bleeding in only in 1.7% (n=5).

Table 7

Bleeding	No. of acceptors	%	Continuation	%	Discontinued	%	Chisquare	P value
Nil	274	91.3	237	79	37	12.3	34.622	.000
minimal	21	7.0	016	5.3	5	1.7		
heavy	05	1.7	0	0	5	1.7		
total	300	100	253	84.3	47	15.7		

(b) Infection: Abnormal vaginal discharge was observed among the acceptors in only 1% (n=3). Since it was treatable, they did not require IUCD removal and continued.

Table 8

Infection	No of acceptors	%	Continuation	%	Discontinued	%	Chisquare	P value
nil	297	99	250	83.3	47	15.7	0.716	0.398
present	3	01	3	1	0	0		
total	300	100	253	84.3	47	15.7		

(c) Pain: Dysmenorrhea, which needed medical care was noted in 8.4% (n=25), of which severe dysmenorrhea was observed in only 1% (n=3).

Table 9

Pain	No. of acceptors	%	continuation	%	discontinued	%	chisquare	P value
nil	275	91.7	233	77.7	42	14	16.846	.000
mild	22	07.3	20	6.6	2	0.7		
moderate	03	1	0	0	3	1		
total	300	100	253	84.3	47	15.7		

(d) Missing strings of IUCD: Missing string was noted in 12.4% (n=37) of the acceptors, of which 7.7% (n=23) were found to be inside the uterine cavity confirmed by ultrasound. Spontaneous expulsion rate was 4.7% (n=14).

Table 10

	No of acceptors/300	Prcent
Missing IUCD strings	37	12.4
Spontaneous expulsion	14	4.7
In situ(USG confirmed)	23	7.7

(e) Time of expulsion: most of the expulsion (n=13, 4.3%) were observed within the first year of insertion.

Table 11

Time of expulsion	Post placental	postpartum	Intra-caesarean
8 months	1	0	2
9 months	0	0	1
1 year	5	1	3
18 months	0	1	0

(f) Reasons for IUCD removal:

In our follow up period, most (n=19, 6.33%) of the removal is for, opting to go for permanent method of contraception (sterilization).

Table 12

Reason for removal	No of pts	%
For want of 2 nd child	7	2.3
bleeding	5	1.67
pain	2	0.67
TAT	19	6.33
total	33	11

For those who wanted IUCD removal, we were able to remove IUCD in OPD in 23 patients (7.7%). 10 patients (3.3%) required IUCD removal in OT under anaesthesia.

Table: 13

Place of cuT removal	No of patients	percentage
OPD	23	7.7
OT	10	3.3

DISCUSSION

PPIUCD are the only post partum family planning method for couples requesting a highly effective, reversible, yet long term contraceptive method that can be initiated during

immediate post partum period in lactating women. WHO medical eligibility criteria states that it is generally safe for postpartum lactating women to use PPIUCD with the advantages outweighing disadvantages.

We can reduce the unmet need of family planning with this contraceptive. PPIUCD is more convenient for health care providers and for acceptors- using opportunity of child birth when both the mother and provider are at hospital. Another family planning visit and hospitalization is not necessary which is advantageous for socio-economically weaker section of women, who depend on Government hospitals for health care.

Fewer instruments and staff are necessary for PPIUCD than for interval IUCD. Govt. of India promotes institutional deliveries and it provides increased opportunity for immediate post partum insertion of CuT. Advantages of immediate post partum insertion are high motivation, assurance that she is not pregnant and convenience.

Most of the willing acceptors in our study were primipara (n=199, 66.4%), who are the ideal candidates for this non hormonal reversible spacing method of contraception. Most of our PPIUCD insertion is in intra-caesarean category (n=235, 78.3%), followed by post placental insertions (n=42, 13%) and immediate post partum (n=23, 7.7%).

Comparison of our study with similar PPIUCD studies:

Table 14

OUTCOME	Our study	MCHIP data (5)	Anjumafshan et al (6)	Rajani Goutham et al (7)	Sahejakuttur et al (8)
Continuation	84.3%	89%	90%		
expulsion	4.7%	02%	06%	3.1%	05.23%
Missed strings	12.4%	04%	-	-	24.76%
bleeding	8.7%	04%	6.6%	19%	-
perforation	0	0	0	0	0
infection	01%	1%	0.2%	4%	-
Pain	08.4%	04%	-	-	-

In our follow up study, continuation rate is high 90.7 % (n=272) at the end of 1 year and 84.3% at the end of 30 months comparable to other studies by MCHIP, Anjumafshan et al, Rajani Gowtham et al and Sahejakuttur et al. Spontaneous expulsion rate at 30 months was 4.7%, 13 out of 14 expulsion (4.3%) following first year of insertion. Expulsion rate in our study (4.3%) is less than in interval IUCD (5%) at the end of first year of insertion (9). Missing string were observed in 12.4 % (n=37), of whom nearly 2/3rd i.e. 7.7% (n=23) it was in the uterine cavity confirmed by sonography. 8.7% (n=26)

of the acceptors had excessive menstrual bleeding, in which only 5(1.67%) acceptors needed removal of IUCD. In none of the PPIUCD insertions, perforation of uterus occurred because of thick myometrium in the immediate post partum period (10, 11). Infection rate was 1% in our study (n=3) and no one needed removal of IUCD for that complication. They continued IUCD with medical management. This less incidence of infection could be due to antibiotic use in all our caesarean deliveries and careful selection of cases for PPIUCD insertion. Dysmenorrhea in our acceptor were noted

in 8.3 % (mild n= 22, moderate n=3), among whom only 0.67% (n=2) needed removal of IUCD. Removal of IUCD for pain (0.67%) and excessive bleeding (1.67%) is less in our PPIUCD users (2.34%) compared to 5-15% in interval IUCD users. Most of the CuT removal in our users were for opting to go for either permanent sterilization 6.33 % (n=19) or for planning for second child 2.3 % (n=2.3%). 10 users (3.3%) needed intravenous sedation in OT for CuT removal.

CONCLUSION

PPIUCD is safe and effective method of contraception with low expulsion rate and high continuation rate. Women who received PPIUCD showed high level of satisfaction with their choice of contraception. It is not associated with increased risk of infection, perforation, post partum bleeding, sub involution, excessive menstrual bleeding and pain. Hence it can be highly recommended as an effective method of postpartum contraception in developing countries.

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Conflict of interest:

The authors declare that they have no conflicts of interest.

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