



Gynecology

STUDY ON AWARENESS, ACCEPTABILITY & CLINICAL OUTCOME OF POST PARTUM - IUCD INSERTION IN A TERTIARY CARE HOSPITAL OF NORTH INDIA

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ABSTRACT **Background:** Post partum period is ideal time for family planning counselling. Accessibility to health care facility is more during this period in our country. IUCD to prevent pregnancy is a highly effective, safe, long acting, coitus independent & reversible method of contraception with very low side effects.

Objectives: This study was conducted to evaluate the awareness, acceptance, safety, efficacy, complications and expulsion rate of Post-partum Intrauterine Contraceptive Device (PP-IUCD) insertion among pregnant women in a tertiary care centre.

Material and Methods: This was a prospective study was carried out in the department of Obstetrics and Gynaecology, Career Institute of Medical Sciences from November 2014 to October 2016 (ie.2years). Women delivering in the hospital and fulfilling inclusion criteria were included in the study after obtaining informed consent. The study protocol was approved by the ethics committee of the medical college.

Results: Out of 1820 women, only 108 (5.9%) were aware about PP-IUCD and they received information from the IEC material displayed in the antenatal clinic. Out of these 108 women, 70 women (64.8%) agreed with PP-IUCD insertion. Out of 1712 unaware women, 930 (54.3%) agreed with PP-IUCD. Agreement with PP-IUCD insertion was higher in women who were aware about the PP-IUCD. Overall acceptability was found in 1000 (55%) patients. Out of the 1000 (55%) women who accepted the PP-IUCD insertion, only 573 (31.4%) women underwent PP-IUCD insertion. After PPIUCD insertion, 67.2% of women had an uneventful course and 32.8% women had complications. Not a single woman suffered from perforation, or any other life-threatening complication.

Conclusion: The acceptance of PP-IUCD was high in present study and it is comparably more than other studies done globally. Awareness of PP-IUCD among these women was very poor despite high acceptance. The PP-IUCD was also demonstrably safe, having no reported incidence of perforation with low rates of expulsion, pelvic infection, and few lost strings.

KEYWORDS : PP-IUCD, Contraception, Pelvic Infection, Perforation

INTRODUCTION:

The national population policy of India was formulated in the year 2000 with the long term objective of achieving a stable population by 2045, at a level consistent with the requirements of sustainable economic growth and social development. (1) The Millennium Development Goal of improved maternal and child health was to provide quality contraception services to women. (1) An essential strategy to prevent unintended pregnancies is the use of effective contraception in the postpartum period. The intrauterine contraceptive device (IUCD) has been used by women in India for decades to space pregnancies. The CuT 380 is a highly effective (>99% effective) IUCD with an incidence of 0.6 to 0.8 pregnancies per 100 women in the first year of use. The Cu T380A is effective for 10 years of continuous use. (2) However, it is estimated that around 65% of women experience an unmet family planning needs in India. (1) Further, returning to health facilities for postpartum services is difficult for women who have competing demands. To overcome these barriers, the insertion of a post-placental intrauterine contraceptive device (PPIUCD) might be useful. The Government of India has introduced the PPIUCD service in 19 states of India in 2010 in collaboration with Jhpiego, India.(3) Despite making contraception widely available, there is poor acceptance of contraceptive methods either because of ignorance or fear of associated complications. Inadequate knowledge about contraceptive methods and incomplete or erroneous information about their use or where to procure them are the main reasons for not accepting family planning. Awareness has been highlighted by many as a key indicator of success in a range of perform ance.

IUCD to prevent pregnancy is a highly effective, safe, long acting, coitus independent & reversible method of contraception with very low side effects. Many Government policies to increase hospital delivery in form of incentives to local ASHA workers achieve good target of post partum IUCD insertion and indirectly lowering maternal mortality and morbidity. The post partum insertion of an IUCD is likely to bring a revolutionary change in the field of contraception. Post partum IUCD can be inserted safely at any time during the first 48 hours after delivery before discharging the patient. Being a very old

method of contraception, acceptability of post partum IUCD is very low in India due to illiteracy and poor social services.

IUCD is most commonly used reversible method of contraception worldwide with about 127 million current users. Insertion of an IUCD immediately after delivery is appealing for several reasons. The women are not pregnant and are motivated for contraception and situation is convenient for women and providers. The evidence for post-partum IUCD insertion was weak when this study was undertaken. Hence the present study was planned to evaluate the safety and efficacy of insertion of immediate post-partum IUCD in women delivering vaginally or by cesarean section.

AIMS AND OBJECTIVES:

This study aimed to evaluate the awareness, acceptance, safety, efficacy, complications and expulsion rate of Post-partum Intrauterine Contraceptive Device (PPIUCD) insertion among pregnant women in a tertiary care centre.

MATERIAL AND METHODS:

This was a prospective study was carried out in the department of Obstetrics and Gynaecology, Career Institute of Medical Sciences from November 2014 to October 2016 (ie.2years). Women delivering in the hospital and fulfilling inclusion criteria were included in the study after obtaining informed consent. The study protocol was approved by the institutional ethics committee of the medical college.

INCLUSION CRITERIA:

All antenatal patients attending OPD or admitted for delivery to our hospital were counselled for PPIUCD. Consent was obtained from those, who opted for insertion; among those who fulfilled the following criteria were considered for inclusion.

- 20-45 years of age
- Gestational Age 36-40 weeks
- Willing to have CuT insertion after counselling
- No infections
- Hb \geq 9 g/dl.

Exclusion criteria:

According to medical eligibility criteria for IUCD by WHO, following were the exclusion criteria

- Fever during labour and delivery (Temp > 38 deg c)
- Having active STD and other genital tract infection or high risk for STD
- Known to have ruptured membranes for >18 hrs prior to delivery.
- Known uterine abnormalities ef. Bicornuate/septate uterus, uterine myomas.
- Manual removal of the placenta
- Unresolved postpartum hemorrhage (PPH) requiring use of additional oxytocic agents in addition to AMTSL.

Insertion techniques

Post-Placental Insertion: All necessary instruments (CuT 380 A, 2 ring forceps, Sim's speculum, over head lamp. Povidone Iodine, kidney tray, and cotton swabs) were arranged on an auxiliary table covered with a sterile drape. Insertion was performed by the consultant using modified Kelley placental forceps. The patient was placed in a lithotomy position with buttocks at the edge of the table. Aseptic techniques were enforced throughout the procedure issued. The uterus was palpated to evaluate the height of the fundus and its tone. This is important to assess the size of the uterus to know whether the strings are likely to protrude through the cervix even when CuT is placed at fundus. After performing the appropriate hand washing, a pair of sterile gloves was worn. The perineum was cleaned with povidone iodine. The perineum, labia, and vaginal walls were inspected for lacerations. HLD Sim's speculum was gently inserted into the vagina to visualize the cervix. The cervix and the vaginal walls were cleaned twice with cotton swabs soaked in povidone iodine solution with speculum in place. The anterior lip of the cervix was then gently grasped with the same ring forceps used earlier. The IUCD was removed from the insertion sleeve and grasped with the modified Kelley forceps using no-touch technique. Once it is inserted into lower uterine segment. Other hand was removed to abdomen; and placed over the fundus and uterus was pushed gently upward to reduce the angle and curvature between the uterus and vagina. IUCD with forceps was moved upward until it can be felt at the fundus. Then the forceps were opened to release the IUCD and swept to side wall. Uterus was stabilized until forceps removal was complete. The cervical os was then gently inspected for the strings. Sims speculum was removed. She was allowed to take rest for some time.

Intra-Cesarean Insertion of the IUCD: Uterine cavity was inspected for presence of malformations following placental delivery, which would limit used of IUCD. The IUCD was removed from the insertion sleeve and placed on the sterile field. Uterus is stabilized by grasping it at fundus. IUCD is hold between middle and index finger. It was inserted into the uterus through uterine incision and released at fundus of uterus. Hand was removed slowly from the uterus. Enough care was taken not to dislodge IUCD as hand is removed. Strings were guided toward the lower uterine segment without disturbing IUCD;s fundal position. Enough care was taken not to include IUCD strings during uterine closure.

ADVICE AT THE TIME OF DISCHARGE:

1. IUCD client cord showing tape of IUCD and date of insertion.
2. She was informed about the IUCD side effects.
3. Return for IUCD follow up.

She was advised to come back anytime if she has:

- Foul smelling vaginal discharge
- Lower abdominal pain
- Fever with chills and rigor.
- Feeling of being pregnant.
- Suspicion that IUCD was lost.

Women were followed up regularly over a period of 6weeks-6months for complication assessment and interim IUCD removal.

RESULTS:

This was a prospective study which was conducted over a period of 2 years, at Career Institute of Medical Sciences and Hospital, in which a total of 1820 pregnant women were recruited. Out of 1820 women, only 108 (5.9%) were aware about PP-IUCD and they received information from the IEC material displayed in the antenatal clinic.

Out of these 108 women, 70 women (64.8%) agreed with PP-IUCD insertion. Out of 1712 unaware women, 930 (54.3%) agreed with PP-IUCD. Agreement with PP-IUCD insertion was higher in women who were aware about the PP-IUCD. Overall acceptability was found in 1000 (55%) patients.

In our study, the highest acceptance was seen in women in the age group ranging from 20 to 29 years (71%), those coming from rural areas (59%), Muslims (51%), those with secondary or higher level of education (42%), and those with middle socioeconomic status (37%) (Table 1). A higher acceptance rate was also observed among multiparas (75%), women having last childbirth interval of <2 years (51%) and those who had a desire for future pregnancy after an interval of more than 2 years (55%).

Out of the 1000 (55%) women who accepted the PP-IUCD insertion, only 573 (31.4%) women underwent PP-IUCD insertion. The reasons that 427 women were unfit for PPIUCD insertion were premature rupture of membranes of more than 18 hours, infection, unresolved postpartum hemorrhage, any operative intervention like caesarean section, and manual removal of the placenta.

After PPIUCD insertion, 67.2% of women had an uneventful course and 32.8% women had complications. Not a single woman suffered from perforation, or any other life-threatening complication. The expulsion rate was 6.8% and maximum expulsions were noted between 7 days and 6 weeks post-insertion. The removal rate was 1.9%, and the continuation rate was 98.1% (Table 4,5,6).

TABLE 1: Baseline characteristics of women with acceptability PPIUCD insertion

Variables	Number of women (n=1000)	%	
Age in years	≤20	200	20
	21-30	710	71
	>30	90	09
Residence	Urban	410	41
	Rural	590	59
Religion	Hindu	410	41
	Muslim	510	51
	Sikh	50	05
	Christian	30	03
Educational status	No formal education	180	18
	Primary	300	30
	Secondary	420	42
	Higher	100	10
Socio economic status	Upper	70	07
	Upper middle	110	11
	Lower middle	370	37
	Upper lower	310	31
	Lower	140	14
Parity	P1	95	9.5
	P2-P4	750	75
	>P4	155	15.5
Last child birth interval	0-2 years	510	51
	2-4 years	360	36
	>4 years	130	13
Desire for future pregnancy	Interval > 2years	550	55
	Not sure	210	21
	No more	240	24

TABLE 2: Reasons for acceptability amongst females who participated in study

Reasons for acceptability	Number (n=1000)	%
Long term	530	53
Safe	280	28
Fewer clinical visits	110	11
Reversible	80	008

TABLE 3: Reasons for refusal amongst females who participated in study

Reasons for refusal	Number (n=820)	%
Fear of complication	320	39
Family refusal	90	11
Another method	410	50

TABLE 4: Various Complications Reported By The Women

Complications	6weeks		6 months	
	Number (n)	%	Number (n)	%
Bleeding	80	13.9	50	8.7
Expulsion	24	4.2	15	2.6
Strings not visible	60	10.4	10	1.75
Pelvic infection	20	3.5	30	5.2
Pregnancy	04	0.7	01	0.1
Perforation	00	00	00	00

TABLE 5: Timing and rate of expulsion of IUCD

Timing and rate of expulsion	Number (n)	%
Within 7days	07	1.2
Within 7days to 4weeks	15	2.6
After 4 weeks	17	2.9

TABLE 6: Reasons for removal of IUCD in the study

Reasons for removal	Number (n)	%
Bleeding	03	27.2
Menstrual disturbances	02	18.1
Pressure from family	03	27.2
Others including string problems	02	18.1
Pain in abdomen	01	9.09

DISCUSSION:

In our study out of 1820 women, only 108 (5.9%) were aware about PP-IUCD and they received information from the IEC material displayed in the antenatal clinic. Out of these 108 women, 70 women (64.8%) agreed with PP-IUCD insertion. Out of 1712 unaware women, 930 (54.3%) agreed with PP-IUCD. Agreement with PP-IUCD insertion was higher in women who were aware about the PP-IUCD. Overall acceptability was found in 1000 (55%) patients out of which only 573 (31.4%) women underwent PP-IUCD insertion.

Majority of the women (82%) in the study population had at least a primary level of education. Acceptance of PP-IUCD was higher among women with primary and secondary education than those with no formal or higher education. This was much similar to a study done in Egypt by Safwat et al (4) where women with no formal education had an acceptance of 9.4%, while those with formal education were 19.4%.

Education has a positive effect on contraceptive use as shown in the study in Zimbabwe. It was only apparent among women who completed secondary education (12 years or more). Women who completed secondary school were about twice as likely to use modern contraceptive methods as women who did complete primary education. In this study, it is as high as fourfold (5). Acceptance of intrauterine contraceptive device was most common among multiparous women (75%), this finding is much similar to that of the study by Grimes et al (6) where they found higher acceptance in multiparous clients (65.1%). The duration since last child birth was significantly associated with acceptance of PP-IUCD. About 51% of the PPIUCD acceptors had their last child birth less than 2 yrs. Women who came for first delivery with short pregnancy interval felt the need for a long acting and reliable methods of contraception. In a report released by WHO in 2006, better family planning and birth spacing services resulted in better maternal and neonatal outcome. When promoted in countries with high birth rates, 32% of all maternal deaths and over one million deaths of children under 5 yrs could be prevented. Healthy timing and spacing of pregnancies have a positive effect on maternal health and new born outcomes (7). This finding in the study indicates towards a positive maternal health in future. PPIUCD has distinct advantage. It is free from systemic side effects and does not affect breast feeding as seen with hormonal methods. It is a reversible method. PPIUCD does not require regular user compliance. It is also not coital dependent and there is no pain on insertion when used post-placentally. There were no cases of perforation or misplaced IUCD in the present study. Global health technical briefs on immediate post partum insertion safety and efficacy said that there are few reported addressing the relative safety of immediate post-partum insertion. Future pregnancy desire remaining almost same in both groups of acceptors and non acceptors. This finding suggests that the program manager must give priority towards effective antenatal counseling on PPIUCD, as minimal afford would bring about a great change. A significant number of women declined PPIUCD because of partners (husband) and family members non-involvement. This reveals the importance of partner involvement during counseling and decision

making. Many studies have shown that when the partner is involved in contraceptive counseling and decision making, the acceptance and continuation rates were higher. Therefore it is most important to include proper counseling of the couple together to choose a contraceptive method which will in turn increase the compliance. Husband and other family member's pressure for IUCD removal was a significant reason (27.27%) for removal next to bleeding and menstrual disturbance (45.45%), these findings emphasize the important of involving the husband in prenatal counseling. Like other studies (8) bleeding (27.27%) out numbers other complications. It is really worrying. But only 6 out of 62 (9.67%) insisted on removal, rest retained IUCD with reassurance only, which speaks of the importance of positive attitude. 60 (10.4%) among those inserted with PPIUCD had lost strings during first follow up at 4-6 wks. In 6 cases, strings were found at cervical canal. Rest four cases needed ultrasound and confirmed that the IUCD was insitu. One of them insisted on removal. On removal, curling and retraction of strings into the uterine cavity were confirmed. It should be noted that there were no serious complications in the study. Expulsion rates of the immediate PPIUCD at 4-6 wks interval were 24 (4.2%). This was similar to a multicountry study done in Belgium, Chile and Phillippines which showed the rate of expulsion at 1 month ranging from 4.6 to 16 % (9). Removal rates are similar in clients having or not having complication (27.27%). It speaks of the importance and motivation prior to insertion in continuing PPIUCD. In the present study there were no cases of PID. A study conducted in 13 countries studies infection (PID) due to IUD. They have reported similar rate of infection with immediate insertion and interval insertion. Another trial did not find any instance of infection due to post-partum IUCD. Expulsion rate of immediate PPIUCD in a study done in China by Chi et al 1994, was 25 – 37%, while post-placental was 9.5 – 12.5%. Expulsion of PPIUCD usually occurs in the first few months after insertion. In a multicenter study done y Tatum et al, the expulsion rates of PPIUCD were similar at 1 and 12 months in Belgium (4%) and Chile (7%), while in the Philippines, expulsion increased from 19% at 1 month to 28% at 12 months follow-up.(10)

Limitations of study:

As it is a single centre study with a relatively small study population, results cannot be generalized to the entire population.

CONCLUSION:

The acceptance of PP-IUCD was high in present study and it is comparably more than other studies done globally. Awareness of PP-IUCD among these women was very poor despite high acceptance. Majority of the women were totally unaware about PP-IUCD before admission to labour room. Parturient who had a short duration from their last child birth (< 2yrs) and primigravida had greater acceptance of PP-IUCD. Acceptance was high among women who had primary education. The PP-IUCD was also demonstrably safe, having no reported incidence of perforation with low rates of expulsion, pelvic infection, and few lost strings.

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