Original Research Article

Acceptability of Post Partum Intrauterine Contraceptive Device among Parturients at a Tertiary Care Centre, Patiala.

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Article History:
Received: 19th November 2019
Received in revised form: 26th November 2019
Accepted: 30th November 2019

Abstract:

Background :

This study examines to describe acceptability of immediate PPIUC Dinsertion in women according to their obstetrics characteristics and future pregnancy desires and to determine the rates of expulsion,pelvic infection, lost strings and displacement following the insertion among the acceptors.

Aim:

To determine the acceptability of Post-placental and Intra-Caesarean insertion of Intrauterine Contraceptive Device(PPIUCD) among Parturients.

Materials & Methods:

The study is a reterospective study conducted in the department of Obstetrics and Gynaecology at Govt Medical College & Rajindra Hospital Patiala from1st March 2018 to 28th Feb 2019.CuT 380A was inserted after the delivery of placenta in women who delivered in labor room of Rajindra Hospital Patiala and fulfilled the Medical Eligibility Criteria for PPIUCD. They were followed after 6 weeks and thereafter if need be.

Results:

Out of Total women counseled (4448), 433 Accepted , 4015Declined , 28 could not be contacted, 405 Followed up. Total complications were 65 (Expulsion 17, Excessive and irregular bleeding 7&Pain 20, Stringproblem13), Removal 13, Continuation 375.

Conclusions:

The PPIUCD is demonstrably safe, effective & reversible method of contraception with minimal side effects. The acceptance and continuation rate is high if done with effective counselling and following proper insertion techniques. Despite low levels of awareness and low acceptability, the continuation rate of PPIUCD was high in our institute.

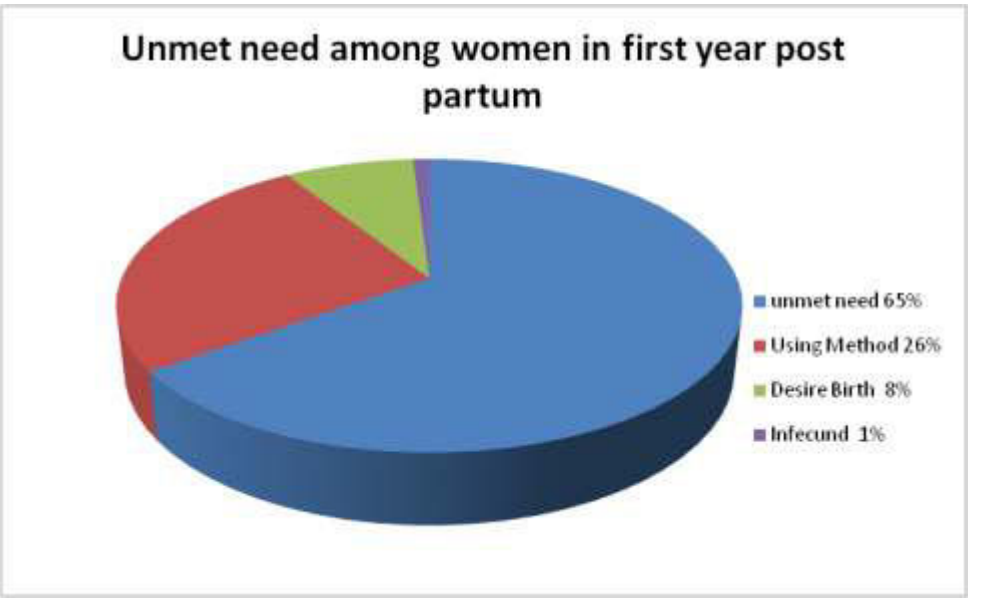
Key words: PPIUCD, Acceptability

Introduction:

By definition contraception means to prevent unwanted pregnancy by temporary or permanent methods.[1].

India is the second largest populated country in the world with a population of 1.32 billion estimated in 2017. It was projected to contribute 17.74% to world's population in 2018.[2] 27% of births are spaced less than 2 years apart and are associated with increased health risks like anemia, abortions, premature labor, PPH, low birth weight babies, fetal loss and maternal death.[3,4]

India is one of the first countries to launch a national programmeso as to reduce birth rates. National Family Welfare Programme (NFWP) was instituted in 1952 as part of its first Five Year Plan (1951-56). An inverted Red Triangle is the symbol for family planning, health and contraception services in our country. The family planning services here are skewed towards sterilization, especiallysterilization of women. Use of modern methods of family planning among married women in India is 49 % and female sterilization accounts for 77 % of this group. Approximately 13% of currently married women between the ages of 15 and 49 in India have an unmet need for contraception. Of the 13 % of women with unmet need nationwide, about 6 percent have an unmet need for spacing methods and 7 percent for limiting methods. A65% of women are having unmet need of family planning in the first year of post partumperiod [5].



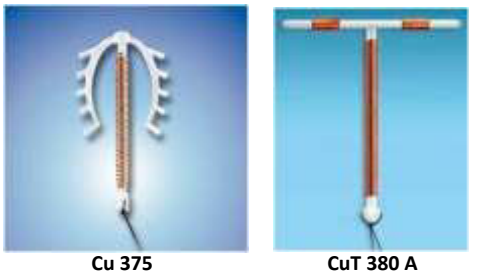
Intra uterine contraceptive device (IUCD) is one of the oldest methods of contraception to prevent pregnancy. The modern IUCD is considered one of the most reliable, inexpensive, nonhormonal, highly effective, safe, long acting, intercourse independent, and rapidly reversible method of contraception with fewer side effects.[8] Its also suitable for a lactating mother because it has no negative effects on lactation and does not affect the quality of the breast milk[6,7] Once inserted, it requires little attention, the reason why many women find IUCD to be very convenient.

Among the options available, the multi-year cost of the Copper T380A IUD makes it one of the most cost-effective contraceptive options available. Insertion of an IUCD immediately after delivery has been recommended by WHO, as one of the safe and effective method of temporary contraception. According to the World Health Organization Medical Eligibility Criteria, an IUCD can be inserted within 48 hours postpartum, referred to as a postpartum IUCD (PPIUCD).[9] A 2010 Cochrane review concluded that PPIUCD is a safe and effective contraceptive method.

After introduction of JSY and JSSK, increasing numbers of women in India are having institutional deliveries. It allows opportunity for the state to provide PPIUCD in a big way.[8] Post-insertion symptoms are masked by the normal postpartum cramping and lochia, thereby increasing the rates of expulsion. However if proper insertion technique is followed under complete aseptic precautions, the incidence of expulsion decreases. Postpartum insertion is convenient both for the women and the provider in institutional deliveries. Follow up can be scheduled along with immunization visits. When counseled properly many women welcome the opportunity to delay their next pregnancy. The postpartum insertion of an IUCD is likely to bring about a revolutionary change in contraceptive use.

Opportunity for a success is excellent, because

- Introduction of JSY has increased institutional deliveries.
- Proper contraceptive counseling during antenatal period by ASHA workers and in ANC clinics.
- Large number of beneficiaries attending Labor Room every day.
- Institutional delivery provides a convenient opportunity for the woman to receive IUCD services.
- Its particularly important for women who have limited access to medical care.
- And having just given birth ensures that the woman is clearly not pregnant.



A study on PPIUCD therefore, was done with the aim of future scope of the method, reasons for its acceptability, denial and associated complaints and complications.

Objectives:

- To determine proportion of women accepting immediate PPIUCD insertions.
- Expulsion / removal rates
- Reasons for removal
- Any other complication

Material and Methods

Study Population: The study population included all women who delivered in our institute.

Criteria: Immediate Post Partuminsertion of IUCD

Methods: This is an open label Cohort study

Study Setting: The study was conducted at department of Obstetrics and Gynaecology at Rajindra Hospital, a tertiary care teaching hospital at Patiala.

Study Period: One year of period March 2018 to Feb 2019.

Study Population: The study population included all women who delivered at Rajindra Hospital during the study period.

Inclusion criteria

- 18 - 45 years old.
- Desire to have CuT after counseling

Exclusion criteria

- Temperature >38°C during or after labor
- ROM for >24 hours prior to delivery
- Intractable PPH
- Having active STD or other lower genital tract infection or high risk for STD.
- Known uterine abnormalities e.g.Bicornuate/ septate
- Uterus, uterine myomas

Counseling of the women:

Women were sensitized about advantages and importance of family planning methods during antenatal visits and at the time of admission that is before delivery. Advantages of PPIUCD and complications were explained.

They were counselled regarding adopting PPIUCD as a method for contraception. Women who were for a scheduled cesarean section and missed counselling previously were counselled prior to cesarean operation about intra cesarean IUCD insertion. All women who accepted PPIUCD, reconfirmation of their choice was done, and consent was taken for insertion of PPIUCD. All of these women, after exclusion criteria, had CuT 380A inserted.

They were followed up after 6 weeks and thereafter as and when they reported with any complaints in OPD of PP unit.

Instructions on Discharge:

To come for follow up in PP unit OPD with IUCD Client card after six Weeks, or earlier if she has any complaints.

- Woman was told when to return for IUCD follow-up : PNC/ newborn checkup.
- She was advised to come back any time she has - –
  Foul smelling vaginal discharge different from the usual lochia
  Lower abdominal pain
  Fever or chills
  Feeling of being pregnant
  Suspicion that the IUCD has fallen out
  Any problems related to threads

Procedure of insertion of PPIUCD

1. **Post placental:** After obtaining written informed consent from acceptors, IUCD was inserted cautiously and aseptically after 3rd stage labour management that is after placental removal.
2. **Intra caesarean:** IUCD was inserted directly into uterine fundus after delivery of placenta, then incision was closed.

Follow up

Follow up was done after 6 weeks. Complaints, if any, were noted like discharge, bleeding and pain abdomen. Examination was done to look for threads, if threads were not found pelvic ultrasound was done. Women who wanted removal of IUCD, reasons were asked for, noted and they were counseled for continuation.

Results

Total Number of Deliveries :	4936
Total Number of Women Eligible for PPIUCD:	4448
Total Number of Women Accepting PPIUCD :	433 (9.77%)
Total Number of Women Rejecting PPIUCD :	4015(90.23%)

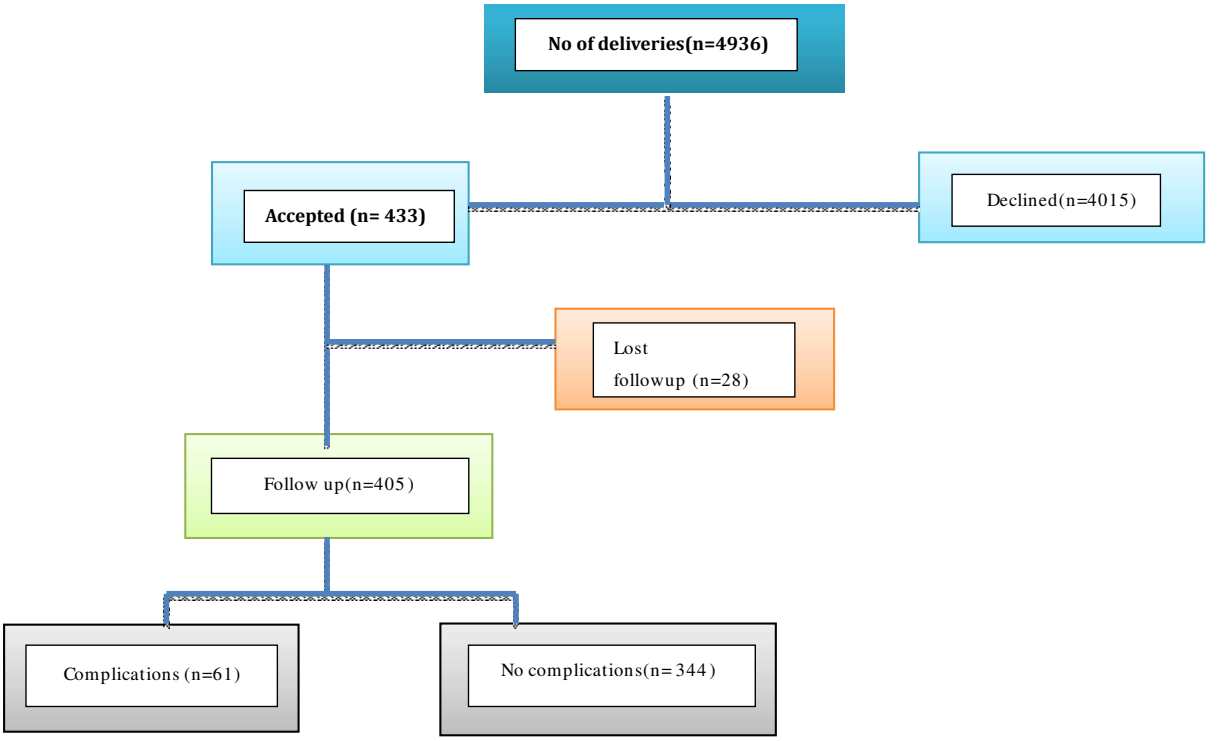


Table 1:

Acceptance vs. rejection of PPIUCD	N=	%
Accepted	**433**	9.77%
Rejected	**4015**	90.23 %
Contraindications	**488**	

Table 2:

AGE		URBAN/RURAL		PARITY	
<20 yrs	26(6%)	Urban	161(37.18%)	One	166(38.33%)
21 -30 yrs	371(81.61%)	Rural	272(62.81%)	Two	179(41.33%)
>30 yrs	36(8.31%)			Three or more	88(20.33%)

Table 3: Acceptance according to education

Education	Acceptance	%
Illiterate	95	21.93%
5th grade	105	24.24%
5th-8th grade	162	37.41%
8th-12th grade	40	9.23%
Graduate	31	7.19%
Total	433	

Table 4: Distribution of subjects according to antenatal care

Accepted		Rejected
Booked	97 (11.06%)	780 (88.94%)
Unbooked	336 (9.51%)	3235 (90.49%)
Total	433 (9.73%)	4015 (90.27%)

Table 5:Reasons for Acceptance of PPIUCD among parturient whom IUCD was inserted.

Reasons	N=	%
Long acting	147	33.94%
Fewer follow up visit	14	3.23%
Reversible	136	31.40%
Safe	39	9%
Non hormonal	5	1.15%
Less attention for the use	106	24.48%
No interference with breast feeding	2	0.46%

Table 6: Reasons for declining PPIUCD.

Reasons	N=	%
Inclination for other forms of contraception	256	6.37 %
Not a Permanent method	448	11.1 5%
Don't want to use contraception	105	2.61 %
Fear of Menstrual irregularities	137	3.41 %
Fear of Pain	72	1.79 %
Fear of future fertility	11	0.27 %
Family pressure	1307	32.5 5%
No reason	15	0.37 %
Religious beliefs	7	0.17%
Heard about misplacement of IUCD from others	1176	29.29 %
Need to discuss with partner	556	13.84 %

Table 7: Follow-up.

Follow-up	N=
Yes	**405**
No	**28**

Table 8 : Timing and rate of expulsion in the study

Timing of expulsion/removal	N(E+R)	%
Within 7 days	4	23.52%
Between 7 days to 4 weeks	9	52.94%
After 4 weeks	4	23.52%
Total	17	

Table 9 :

Complaints / complications in PPIUCD at follow up. Complaints	N	%	Intervention required
Backache	2	0.46%	Analgesics, postnatal exercises
Thread felt at vulva	2	0.46%	Thread cut short
Pain in abdomen	20	4.61%	PID ruled out, counseled, symptomatic treatment women insisted for removal
Irregular Bleeding PV	7	1.61%	Counseling, Tranexamic Acid
spotting on and off	2	0.46%	PID ruled out, counseled , tranexamic acid
Lost strings	10	2.3%	USG confirmed IUCD in situ. Counseled to continue to use
Itching and irritation	3	0.69%	Symptomatic treatment

Table 10: Total Removal = 13

Reason	N	%
Bleeding PV/spotting on -off	3	38.46%
Pain abd	5	23.07%
String problem	1	7.71%
Psychogenic	2	15.38%
Pressure from family	2	15.38%

Discussion

Postpartum period is one of the critical times when women are more vulnerable to unintended pregnancy, once fertility returns. PPIUCD is a good option for such women. Therefore, its acceptance and safety has been the focus of our study. A retrospective study was conducted in the department of Obstetrics and Gynaecology at Govt Medical College & Rajindra Hospital Patiala from 1st March 2018 to 28th Feb 2019. CuT 380A was inserted after the delivery of placenta in women who delivered in labor room of Rajindra Hospital Patiala and fulfilled the Medical Eligibility Criteria for PPIUCD. They were followed upto 6 weeks.

In the present study, 8.7% accepted PPIUCD and majority (81.61 %) were between the age group of 21-30years.

Acceptance of PPIUCD was higher among women with Primary and secondary education (24.24 % and 37.41%), than those with higher education (7.19 %), but in contrast to this a study was done in Egypt by Safwat et al.[10] 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 a study done 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.

Acceptance of intrauterine contraceptive device was most common among multigravida clients (41.33 %). Incase of primigravida, it was 38.33 %; thus, this finding is similar to that of the study by Grimes et al.[11] where theyfound higher acceptance in multiparous clients (65.1 %).The duration since last child birth was significantly associated with acceptance of PPIUCD. About 74 % of the PPIUCD accepters had their last childbirth less than 2 years. Women on first delivery and with short pregnancy interval felt the necessity of a long acting and reliable

method 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 1 million deaths of children under 5 could be prevented. Healthy timing and spacing of pregnancies have a positive effect on maternal health and newborn outcome.[12]. This finding in the study indicates toward a positive maternal health in future. Finding one reason for acceptance is that majority are attracted for its long acting and reversibility properties(33.94% and 31.40%).

Husband's and other family member's pressure was a significant reason (31.95 %) for not accepting PPIUCD. So these findings emphasize the importance of involving the husband in prenatal counseling. Another reason for not accepting PPIUCD as a method of contraception was the fear of IUCD being misplaced(28.75%).

A significant number of women declined PPIUCD because of partner's noninvolvement(13.59%). 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.

Furthermore, during the short postpartum period, it is difficult to get consent from a partner having no knowledge about PPIUCD. Thus, couple counseling is much more important during antenatal visits to choose a contraceptive method which will in turn increase the compliance.

In the present study majority of women presented with pain abdomen as chief complaint(4.61%). Symptomatic treatment was given to 14 women out of 20 and rest insisted for removal of IUCD. Unlike other studies [5] bleeding (1.61 %) was found in comparatively lesser number of acceptors. Only 10 women (2.3 %) among those inserted with PPIUCD had lost strings during first follow-up at 6 weeks. In 6 cases, strings ware found at cervical canal. Rest four cases needed ultrasound and confirmed that the IUCD was in situ and women were reassured to continue with the same method of contraception.

Expulsion rates of the immediate PPIUCD at 1- 4 weeks interval were2.07%. This was less than the multi country study done in Belgium, Chile and Philippines which showed the rate of expulsion at 1 month ranging from 4.6 to 16.0 % [13].The expulsion rate of 5.6% was reported among 210 women in a clinic in Hubli, Karnataka state in India [14], 1.6% among 3000 women in a hospital in Paraguay [15] and 5.6% among 305 women in periurban Lusaka, Zambia [16]. Another study of 1317 women in north India reported a cumulative expulsion rate of 10.7% by six months [17]. Higher expulsion rates of around 9-16% have been reported in earlier studies [18-21]]. One recent study from Turkey of PPIUCD after C-section reported an expulsion rate of nearly 18% [22]. Expulsion of PPIUCD usually occurs in the first few months after insertion. In a multicenter study done by 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[23].

About 0.69 % of women in the present study reported infections. This rate is a bit higher than the rate of 0.1% reported among women in Paraguay [15].

Nearly all women were satisfied with their choice of IUCD at the time of insertion and over 90% reported that they were happy with the IUCD at six weeks following insertion. A previous study from Orissa among interval IUD users found that about three-quarters of women were satisfied with this mode of contraception after one year [24].

Conclusion

The acceptance of PPIUCD after insertion was high in the present study and it is comparable to other studies done globally. Awareness of the PPIUCD among these women was very poor despite high acceptance. Parturient who had a short duration from their last child birth (less than 2 years) and primigravida had greater acceptance of the PPIUCD. Acceptance was higher among women who had primary education.

Primarily the acceptance rates were lower because our hospital is a referral institute and we get a lot of patients as referral cases who had their antenatal checkup somewhere else and patients were not counseled in their antenatal period for PPIUCD which is very important to increase the success rate of PPIUCD insertion.

The PPIUCD was demonstrably safe, having no reported incidence of perforation with low rates of expulsion, pelvic infection and few lost strings.

We can conclude that inserting CuT 380 A by 10 min after placental delivery is safe and effective, has high retention rates with proper insertion technique practices.

With the high level of acceptance despite low levels of awareness, the government needs to develop strategies to increase public awareness of the PPIUCD through different media sources. It is also important to arrange for training on PPIUCD in order to increase knowledge and skills among healthcare providers. This will also further promote PPIUCD use and aid in reduction of the expulsion rates. In a nation which moves with discounts, subsidies, and incentives, cash incentives to the accepter, motivator and of course provider would bring about a substantial progress in the PPIUCD use in developing countries like India.

Conflict of Interest : None

References

1. Park K. social and preventive medicine. 23rd ed. Jabalpur: Banarsidasbhanot; 2015.
2. Population of the world. Available at https://www.livepopulation.com/country/india.html
3. National Family and Health Survey (NFHS-4) 2015-2016. Ministry of Health and Family Welfare. Government of India.
4. Rutstein SO. Effects of preceding birth intervals on neonatal, infant and under-five years mortality and nutritional status in developing countries: evidence from the demographic and health surveys. International Journal of Gynecology and Obstetrics. 2005;89(S1).
5. Post-partum. IUCD reference manual. New Delhi: Family Planning Division, [3] Ministry of Health and Family Welfare, Government of India; 2010.
6. Gomesz-Rogers C, Ibarra-Polo AA, FaundesA, Guiloff E. Effect of IUCD and another contraceptive methods on lactation. Proc 8th IntConfInt Planned Parenthood Fed, Santiago. April 1967; 328–34.
7. Chi IC, Farr G: Postpartum IUCD contraception: A review of international experience. Advances in Contraception. 1989;5:127–46.
8. Sujnanendra Mishra. Evaluation of Safety, Efficacy, and Expulsion of Post-Placental and Intra-Cesarean Insertion of Intrauterine Contraceptive Devices (PPIUCD). The Journal of Obstetrics and gynaecology. 2014; 64(5):337-43.
9. World Health Organization. Medical Eligibility Criteria for Contraceptive Use. 4. Geneva: World Health Organization; 2010.
10. Mohammed SA, Kamel MA, Shaaban OM, Salem HT. Acceptability for the use of postpartum intrauterine contraceptive devices: assiut experience. Medical Principles and Practices. 2003;12:170–5.
11. Grimes D, Schulz K, van Vliet H, Grimes D1, Schulz K, van Vliet H, Stanwood N. Immediate post-partuminsertion of intrauterine devices: a cochrane review. Human Reproduction. 2002;17(3):549–54.
12. Maternal and Child Health Integrated Program and PPFP activities, WHO Report.
13. Blanchard H, Mac Kaig C. ACCESS-FP Program. 2006. Postpartum contraception.
14. Kittur S, Kabadi YM. Enhancing contraceptive usage by post-placental intrauterine contraceptive devices (PPIUCD) insertion with evaluation of safety, efficacy, and expulsion. International Journal of Reproduction, Contraception ,Obstetrics and Gynecology. 2012;1:26–32.
15. Araujo VB, Ortiz L, Smith J. Postpartum IUD in Paraguay: a case series of 3000 cases. Contraception. 2012; 86:173–86.
16. Blumenthal P, Shiliya N, Neukom J, Chilambwe J, Vwalika B, Prager B et. al. Expulsion rates and satisfaction levels among immediate postpartum IUD users in peri-urban Lusaka, Zambia. Contraception. 2011; 84:320.
17. Shukla M, Qureshi S, Chandrawati. Post-placental intrauterine device insertion – a five year expérience at a tertiary care centre in north India. Indian Journal Medicine and Research. 2012; 136:432–35.
18. Chi IC, Wilkens L, Rogers S. Expulsions in immediate postpartum insertions of Lippes Loop D and Copper T IUDs and their counterpart Delta devices – an epidemiological analysis. Contraception. 1985; 32:119–34.

19. Tatum HJ, Beltran RS, Ramos R, Van Kets H, Sivin I, Schmidt FH. Immediate postplacental insertion of GYNE-T 380 and GYNE-T 380 postpartum intrauterine contraceptive devices: randomized study. American Journal of Obstetrics and Gynecology. 1996; 175:1231–5.
20. Celen S, Möröy P, Sucak A, Aktulay A, Danisman N. Clinical outcomes of early postplacental insertion of intrauterine contraceptive devices. Contraception. 2004;69:279–282.
21. Bonilla Rosales F, Aguilar Zamudio M, Cázares Montero ML, Hernández Ortiz ME, Luna Ruiz MA. Factors de expulsióndeldispositivointrauterino TCu380A aplicado en puerperioinmediato y tardío [Factors for expulsion of intrauterine device TCu380A applied immediately postpartum and after a delayed period] Rev Med InstMexSeguro Soc. 2005;43:5–10.
22. Celen S, Sucak A, Yildiz Y, Danisman N. Immediate post-placental insertion of an intrauterine contraceptive device during cesarean section. Contraception. 2011;84:240–243.
23. Tatum HJ, Beltran RS, Ramos R, Van Kets H, Sivin I, Schmidt FH. Immediate post placental insertion of GYNE-T 380 and GYNE-T 380 postpartum contraceptive devices: randomized study. American Journal of Obstetrics and Gynecology. 1996;175(5):1231–5.
24. Patnaik UK, Mishra TK. User satisfaction and retention of Cu-T (IUD) amongst rural women in Orissa. Health and Population: Perspectives and Issues. 2003; 26:52–8.