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Research Article

Evaluation of post-placental intrauterine device (PPIUCD) in terms of awareness, acceptance, and expulsion in a tertiary care centre

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ABSTRACT

Background: The study was conducted to assess the awareness, acceptance in terms of age, parity, education, residence and expulsion rates of post-placental intrauterine contraceptive device (PPIUCD) at 6 weeks follow-up in vaginal deliveries.
Methods: This was a prospective longitudinal study. After counseling, 397 willing women were inserted PPIUCD. Outcomes were studied at 6 weeks.
Results: Awareness about post-placental IUCD was significantly low as compared to interval IUCD (5.79% versus 73.55%). Acceptance of PPIUCD was higher in the age group of 21-25 years (50.88%), para-2 (35.76%), and educated (65%) clients. Expulsion rate was 10.5%. There was no case of perforation or any other major complication.
Conclusion: Post-placental insertion IUCD is a safe, highly effective, long acting, cost effective method of contraception. The expulsion rates can be reduced if trained medical personnel insert the device and IUCD is inserted high up at the fundus.

Keywords: PPIUCD, Awareness, Acceptance, Expulsion

INTRODUCTION

India is the second most populous country in the world, sustaining 17.01% of world population on 2.4% of world's surface area. According to Census 2011 the population of India on 1 March 2011 was 1,210,193,422. In spite of availability of wide range of contraceptives, the unmet need for family planning is estimated to be 12.8%. The common reasons for unmet need are unsatisfactory services, lack of information, and fear about side effects of contraceptive method. Studies show that pregnancies taking place within 24 months of previous birth have higher risk of adverse outcome like abortion, premature labour, postpartum hemorrhage, low birth weight babies, fetal loss, and maternal death. Apart from lactational amenorrhea, the methods which can be used by the women during postpartum period are barrier methods, progesterone only pills, sterilization (puerperal tubectomy) and IUCD (postpartum IUCD).

IUCD insertion has many advantages over other methods like simplicity, minimal motivation, reversibility, free of cost availability, virtually no systemic side-effects, and high continuation rate.

Insertion of IUCD in postpartum period has additional advantages of safety due to blunt insertion technique, and certainty of non-pregnancy of woman. Integrating IUCD insertion with delivery services optimizes opportunities for women to obtain an appropriate long term, reversible family planning method before returning home. Also it is seen that women are highly motivated and receptive to accept family planning methods during the postpartum period and this is the best time when a woman is in

contact with the health care facility. Survey show that 40% of women in the first year postpartum intend to use family planning method, but are not doing so.

In situations of limited access to care and infrequent postpartum care post-placental IUCD insertion can be an effective and useful method of contraception.

Purpose of this study was to evaluate post-placental IUCD and highlight its benefits.

METHODS

Study Design: Prospective longitudinal study.

Study Period: 01 June 2010 to 30 September 2011

Study Setting: Department of Obstetrics and Gynecology, Gandhi Medical College and Sultania Zanana Hospital, Bhopal.

Inclusion criteria: Women delivered vaginally.

Exclusion criteria:

1. Women not motivated for PPIUCD insertion.
2. Women with caesarean delivery.
3. Women with any obstetric high risk factor e.g. hypertensive disorder of pregnancy, ante partum or postpartum haemorrhage, anaemia.
4. Women with any medical high risk factor e.g. diabetes mellitus, asthma.

The proforma was prepared in form of questionnaire and with the help of questionnaire required information was collected from the PPIUCD recipients.

Methodology

After the active management of 3rd stage of labour was complete, bimanual examination was performed. Empty uterine cavity was ensured. All the required things were arranged in a tray. Written consent was taken from the women. Perineum was again properly inspected for lacerations. Cervix was visualized using speculum and retractor. Cervix and vagina were again cleaned up. IUCD pack was aseptically opened and copper-T was held in Right hand and slowly inserted through the cervix to the lower uterine cavity, left hand was moved to abdomen, to place it on top of sterile towel over the fundus of uterus. Copper-T was slowly moved upward until fundus of uterus can be felt. The hand over the fundus and copper-T are approximated and then IUCD was left at the fundus and the hand was slowly moved out, while stabilizing the uterus with outside hand. Strings were cut to the level of the cervix. The strings were always visible at the cervix after the insertion.

Follow up: Follow up was scheduled at 6 weeks.

RESULTS

A total of 503 women were counselled and motivated for PPIUCD adoption. Out of this 397 women accepted the method. Total vaginal deliveries during the study period were 2111. Total acceptance rate was 18.8%.

Demography

Table 1 shows the demographic characteristics of the 397 PPIUCD clients. Majority of cases were between the age group of 21-25 years (50.88%). Most of the clients were para-2 (35.76%). 65% were literate. Residence did not seem to have any major impact on PPIUCD acceptance.

Table 1: Demographic characteristics of the PPIUCD clients.

Characteristics	Number	%Age
Age (Years)		
15-20	57	14.35
21-25	202	50.88
26-30	109	27.45
31-35	24	6.04
36-40	05	1.28
Total	397	100
Parity		
Primipara	117	29.47
Para-2	142	35.76
Para-3	87	21.92
Grandmulti	51	0.12
Total	397	100
Educational Status		
Illiterate	139	35.01
Primary	105	26.44
Secondary	79	19.54
Higher	64	16.12
Graduate	08	2.03
Post Graduate	02	0.5
Total	397	100
Area of Residence		
Rural	189	47.6
Urban	208	52.4
Total	397	100

Awareness

Though majority of the women were aware of copper-T (interval IUCD) but few had ever heard of insertion in the postpartum period (PPIUCD) (73.55% vs. 5.79%) as shown in table 2.

Table 2: Awareness about PPIUCD.

	Interval IUCD		PPIUCD	
	Number	**%Age**	**Number**	**%Age**
Yes	292	73.55	23	5.79
No	105	26.45	374	94.21
Total	397	100	397	100

Follow up

64 cases were lost during the study. Of the 333 clients who returned for follow up only two clients wanted removal of IUCD. Out of the 70 cases of IUCD expulsion only 23 were willing for reinsertion (Table 3).

Table 3: Follow-up details of PPIUCD acceptors.

	Number
Follow Up	
Return For Follow-Up	331(83.37%)
Return For Removal	20(0.5%)
Did Not Return	64(16.13%)
Total	397
Patients Demand at Follow Up	
Removal Of PPIUCD	2
Continuation	251
Reinsertion Of PPIUCD, In Case of Expulsion (70cases)	23

Table 4: Complaints/Findings at follow up.

Complaints	Cases (%)	Findings of IUCD	Cases
Bleeding	35 (10.5%)	Partially Expelled	8(2.5%)
Minor Abdominal Pain	43 (12.9%)	Fully Expelled	27(8%)
No Complaint	255 (76.5%)	Retained	298(89.5%)
Total	333	Total	333

Complaints at follow up

In post-placental IUCD recipients expulsion was the main problem (table 4). No case of perforation or any other major complication was found. PPIUCD also had no effect on lactation.

DISCUSSION

PPIUCD seems to be a safe long acting highly effective, easily accessible, reversible and cost effective contraceptive method for most postpartum women specially lactating women. According to UN 1997, Cu-T380A confers contraceptive protection similar to that achieved with tubal sterilization.[1,2]

In our study total acceptance rate was 18.8%. Majority belonged to age group of 21-25 years (50.8%). This was probably because they considered PPIUCD as an effective spacing method. Alvarez Peyalo et al (1996) also found that average age of PPIUCD acceptors was 20.6%.[3]

The results of our study showed that 35.76% of total PPIUCD acceptors were having 2 children, as they wanted some form of contraception awaiting permanent sterilization. According to Patel and Khan, men approve use of contraceptive only after having 2 or 3 child.[4] Bhalerao AR et al had 46.5% of the women para-1, 46% were para-2 and 69% had accepted IUDs because they had at least 1 living male child.[5]

During this study, it is seen that 65% of clients were illiterate indicating that education is an important factor in awareness and acceptance of PPIUCD. Education renders people more receptive to new ideas and practices, spacing methods, and importance of small family norms. Education is also a major factor in fertility control. Choudhary et al found secondary and higher education influenced contraceptive use.[6] Ullah and Chakraborty showed women's education as the most important determinant of contraceptive use.[7]

We found in our study that the acceptance of PPIUCD was almost equal among rural (47.6%) and urban (52.4%) women. Though women of urban areas have easy access to other methods of contraception like condoms, permanent sterilization they still prefer PPIUCD because of its various benefits like free of side effects, free of cost availability, reversibility. It was also evident from the study that proper guidance, information and motivation lead to high acceptance of PPIUCD among rural women. This clearly indicates that training to ASHA, ANMs and anganwadi workers and integrating this method in national programmes like National rural health mission could contribute significantly in family planning programme. But contrary to my findings Choudhary found that urban residence strongly influenced contraceptive use.[6]

During the study it was found that only 5.79% of the clients were familiar with the PPIUCD, while the rest 94.21% women have not even heard of PPIUCD. Also women who knew about PPIUCD had many

misconceptions and myths about it like it affects lactation, non reversible method, cause pain and heavy bleeding, hinders during coitus etc. During the study these misconceptions were cleared up and women were educated, counselled and motivated about IUCD along with providing PPIUCD insertions.

In our study, 83.4% cases returned for follow-up while 16.12% of cases were lost to follow-up. Only 2 cases wanted removal of Cu-T as they were motivated for permanent sterilization (laparoscopic TT) by ASHA worker due to vigorous family planning program running in the state. This shows that these ground level workers can play an important role in motivating people for this method, if they are given proper information, adequate training and motivation in the form of honorarium. The women who did not return for follow up were mostly from far off rural areas. Lack of family support, non-availability of transport facility could be the reason for non-compliance. Xu JX et al found that the follow up rate in their study was 95.5%.[8]

The importance of follow up visit after PPIUCD insertions is that women as well as we (health care providers) can be reassured of IUCD placements. In case of expulsion reinsertion/other contraceptive method can be provided.

Out of total women who accepted post-placental IUCD insertion 89.5% post-placental IUCD's were retained while 2.5% of post-placental insertions were partially expelled and 8% fully expelled. The gross cumulative expulsion rate found in my study was 10.5%. The reason for expulsion noted in my study could be lack of experience leading to low placement of Cu-T in the uterine cavity, resulting in more expulsions. Women who had their Cu-T expelled, partially or fully, were motivated for re-insertion of IUCD, those willing were provided reinsertion of copper-T and if unwilling, were advised other suitable contraceptive method.

No cases of uterine perforation or pregnancy with IUCD-in-situ were reported during the study. This is in accordance with the study of El Shafei MM et al (2000)[9] and Ricalde et al (2006)[10] where no perforations were observed in PPIUCD.

No case reported interference of Cu-T with lactation as also found by Diaz S et al (1993)[11], Diaz S et al (1997)[12] and Zacharias S et al (1986).[13]

During the study it was found that post partum uterine contractions had no effect on the IUCD placement, and thus administration of 10 IU oxytocin as a part of active management of third stage of labour had no interference with PPIUCD placement.

Tatum HJ et al found that the gross cumulative expulsion rate in their study was 16.2%.[14] According to Bhalerao et al the expulsion rate was 16.4%. The high incidence was considered due to atrophic or bulky uteri present in some women and due to the fact that only one size IUD was available.[5] Chi IC et al found that there is a lower expulsion rate with immediate post-placental insertion than with immediate postpartum insertion. As well, insertion during caesarean section has a lower expulsion rate than insertion during the postpartum (first 48 hours) period.[15] This is likely due to the fact that it is easier to reliably reach the uterine fundus during post placental or caesarean section.

CONCLUSION

It is concluded from my study that Post-placental IUCD is an effective method of contraception.

Assuming that women will return later often can leave women with no option at all. Despite the potentially higher expulsion rate for PPIUCDs, the public health benefit of the service must be considered. While the expulsion rate may be as high as 10-15%, this also means that the retention rate is more than 85-90%. In situation of limited access to care and infrequent postpartum care, this level of programmatic achievement can be considered as success.

Considering the fact that 70% population of our country is rural, education and proper training of ground level workers like ANMs (auxiliary nurse midwives), TBAs (trained birth attendants), and integration of the post-placental IUCD contraceptive method with national programs like national rural health mission, can lead to more awareness and better acceptance of the method among rural population, thus contributing significantly to family planning programs, helping to reduce the population of the country and securing better health of mother and child.

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REFERENCES

1. United Nations Development Programme/UN Population Fund/WHO/World Bank, Special Programme of Research, Development and Research Training in human Reproduction. Long-term reversible contraception. Twelve years of experience with the TCu380A and TCu220C. Contraception 1997;56:341-52.

2. Peterson HB, Xia Z, Hughes JM, Wilcox LS, Tylor LR, Trussell J. The risk of pregnancy after tubal sterilization: findings from the U.S. Collaborative Review of Sterilization. Am J Obstet Gynecol 1996;174:1161-8.
3. Alvarez pelayo J, B orbolla Sala ME. IUD Insertion during caesarean section and its most frequent complication. Ginecol Obstet Mex 1994; 62:330-5.
4. Khan ME, Patel BC. Male involvement in family planning: a knowledge, attitude, behaviour and practice survey of Agra district. New Delhi: population council, 1997.
5. Bhalerao AR, Purandare MC. Post-puerperal Cu-T insertion: a prospective study. J Postgrad Med 1989; 35:70.
6. Choudhary, R.H. The influence of female education, labour force participation & age at marriage on Fertility Behaviour in Bangladesh Social Biology, 31 (1-2): 59-74, 1984.
7. Ullah, M.S. & chakraborty, N. The use of modern & traditional methods of fertility control in Bangladesh: a multivariate analysis. Contraception, 50 (4): 363-372 1994.
8. Xu JX, rivera R, Dunson Tr, Zhuang LQ, Yang XL, Ma GT, Chi IC. Shanghai municipal family planning commission, People's Republic of china. A comparative study of two techniques used in immediate postplacental insertion of copper T-380 A IUD in shanghai, people's republic of china. Contraception. 1996 Jul;54(1):33-8.
9. El-shafei MM, Mashali A, Hassan EO, El Boghdadi L, El Lakkany N. Post partum and post abortion intra uterine device insertion unmet needs of safe reproductive health: 3 years experience of a Mansoura university hospital. Egypt Soc Obstet Gynaecol 2000;26:253-62.
10. Ricalde Roger Lara, Gerardo Menacol Tobias, Carlos Ramos Parez, Norma Velazquez Ramirez. Estudiocomparativo al azar entre los dispositivos intrauterinos Multiload Cu375 y TCu 380A colocados durante ei postparto. Ginecol Obstet Mex 2006;74:306-11.
11. Diaz S, Croxatto HB. Contraception in lactating women. Curr Opin Obstet Gynecol 1993;5:815-22.
12. Diaz S, Zepeda A, Maturana X, Reyes MV, Miranda P, Casado ME, et al. Fertility regulation in nursing women. IX. Contraceptive performance, duration of lactation, infant growth, and bleeding patterns during use of progesterone vaginal rings, progestin-only pills, Norplant implants, and Copper T 380-A intrauterine devices. Contraception 1997;56:223-32.
13. Zacharias S, Aguilera E, Assenzo JR, Zanartu J. Effects of hormonal and nonhormonal contraceptives on lactation and incidence of pregnancy. Contraception 1986;33:203-13.
14. Tatum H J, Beltran RS, Ramos R, Van Kets H, Sivin I, Schmidt FH. Immediate postplacental insertion of GYNE-T380 and GYNE-T380 postpartum intrauterine contraceptive device. Am J Obstet Gynecol 1996 Nov-175(5)1231-1235.
15. Chi IC, Wilkens L and S. Roger. Expulsions in immediate postpartum insertion of Lippes Loop D and Copper T IUD's and their counterpart Delta devices-an epidemiological analysis. Contraception 1985;32:119-134.

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