ORIGINAL RESEARCH PAPER

medical science

POST PARTUM INTRA UTERINE DEVICE - AN EFFECTIVE TOOL TO REDUCE UNMET NEED OF CONTRACEPTION IN POST PARTUM PERIOD

KEY WORDS: Postpartum Women, Postpartum intrauterine contraceptive device, Acceptance

Anupa Singhal*	Senior Medical Officer, Dr BSA Medical College and Hospital, Delhi. *Corresponding Author
Ritu Khatuja	Assistant Professor, Dr BSA Medical College and Hospital, Delhi
Dolly Chawla	HOD Obst & Gynae, Dr BSA Medical College and Hospital, Delhi
Prachi Renjhen	Professor, Dr BSA Medical College and Hospital, Delhi

ABSTRACT

Introduction
Long acting reversible contraceptive is a safe and effective method of contraception which can be used during postpartum period to space pregnancies. Postpartum intra uterine contraceptive device (PPIUCD) can be inserted post placental, within the 48 hours postpartum and intra caesarean. We conducted a study with the aim to determine the demographic profile of women accepting PPIUCD, its outcome, satisfaction and continuation rate in our hospital.

Methods
An observational study was conducted to see the acceptance, satisfaction and continuation rate of PPIUCD when inserted in post placental, within 48 hours of delivery and intra caesarean period. The data was analysed using z test.

Result
Total number of delivery during the study period were 5865 (4367 normal vaginal delivery and 1498 caesarean section) and women who accepted PPIUCD were 973 (16.5%). Out of 973 women, 383 (25.5%), 321 (7.3%), 269(6.1%) accepted PPIUCD intracaesarean, post placental and within 48 hours of delivery respectively. A single follow up at six months was 529 (54.3%). Overall expulsion rate was 5.8% and removal was 4.7% and continuation rate was 89.5%. There was no statistical difference in expulsion, removal and continuation rate in any of the three groups (post placental, within 48 hours of delivery or intra caesarean).

Conclusion
PPIUCD is a safe and effective method of postpartum contraception during a single visit for institutional delivery and eliminates the need for a return visit to start contraception.

Introduction/ Background

India is one of the most populated country in the world with a maternal mortality rate of 174/100000 live births.[1] One of the contributing factor for maternal mortality and morbidity is short interval between births. Most short interval pregnancies are unintended or mistimed and are associated with negative health behaviour and outcomes such as abortion, premature labour, post partum haemorrhage, low birth weight babies.[2]

Family planning can evert one third of maternal deaths and 10% of child mortality.[3] It has been observed that 43% of women have sexual exposure within 6 weeks of post partum period.[4] In India unmet need of contraception is 12.9%[5] and in postpartum period it is 65%.[6] Thus post partum family planning can prevent unintended and closely spaced pregnancies.

Long acting reversible contraceptive have been found to be safe and effective method of contraception which can also be used during postpartum period to space pregnancies. While globally 14.3% of women aged 15- 49 years use Intra Uterine Contraceptive Device (IUCD)[7], in India less than 2% women use it.5 According to the WHO Medical Eligibility criteria , postpartum IUCD(PPIUCD) can be inserted post placental (within 10 minutes of delivery of placenta), within the 48 hours postpartum and intra caesarean .[8] PPIUCD insertion can be an effective method of contraception as delivery may be the only time when a healthy woman comes in contact with healthcare personnel.

Government of India has taken an initiative step to strengthen the post-partum family planning and introduced PPIUCD services in a phased manner .With the introduction of Janani Suraksha Yojna (JSY), a conditional cash transfer scheme launched by Government of India to encourage institutional deliveries, this can be used as an opportunity for women to receive IUCD services in post-partum period.[9]

PPIUCD is thus emerging as relatively new contraceptive choice in India and it is important to generate country based evidence on demographic profile of women who accept PPIUCD, their satisfaction and complications with this method. We, thus conducted a study with the aim to determine the demographic profile of women accepting PPIUCD, its outcome, satisfaction and continuation rate in our hospital

Methods

An observational study was conducted in a government tertiary care centre in Delhi from January 17 to June 17, where women were counselled verbally in ante natal period, early labour, before caesarean section and in post natal period within 48 hours of normal vaginal delivery, for Copper IUCD (Cu 380A/Cu375) insertion. Those women who agreed, PPIUCD was inserted. The exclusion criteria were women who had chorioamnionitis, postpartum haemorrhage or rupture of membranes of more than 24 hours duration. A single follow up was at 6 months .The demographic profile acceptability, satisfaction and outcome was then observed .The data was analysed using z test.

RESULTS

Table 1: Demographic Profile of clients who accepted PPIUCD

AGE (Years)	N(5865)	%	Accepted IUCD(N)	%
15-20	586	10	108	18.4
21-25	2452	41.8	534	21.7
26-30	2125	36.2	270	12.7
31-35	527	9	56	10.6
36-40	175	3	5	2.8
Education				
Illiterate	1843	31.4	156	8.4
Primary Education	1488	25.3	238	15.9
Secondary Education	1964	33.5	417	21.2
Graduate	486	8.3	144	29.6
Post Graduate	84	1.4	18	21.4
PARITY				
P1	2339	39.8%	352	15%
P2	2358	40.2%	466	19%
>P2	1168	19.9%	155	13%

Majority (78%) of women were in the age group of 21-30 years. Mean age of women who accepted IUCD was 26 years. It was observed acceptance was better with education and was higher in women with 2 offspring (Table1).

TABLE 2: Profile of PPIUCD insertion

	N	%
Vaginal Delivery	4367	74.5%
Post Placental (PPIUCD)	321	7.3% (321/4367)
Within48Hours(PPIUCD)	269	6.1% (269/4367)
Caesarean Section	1498	25.5%
Intra-caesarean (PPIUCD)	383	25.5% (383/1498)
Total PPIUCD (Acceptance)	973	16.5% (973/5865)

Nearly seventeen percent women (973/4367) who delivered during the study period accepted PPIUCD. Most of these (25%) were intra caesarean IUCD insertion. (Table 2)

Table 3: PPIUCD Follow up (Single follow up at 6 months)

	IUCD Inserted	Follow Up	
INTRACAESAREAN	383	210	54.8%
POST PLACENTAL	321	165	51.5%
WITHIN 48 HOURS	269	154	57.2%
Total	973	529	54.3%
	Follow Up	Expulsion	
INTRACAESAREAN	210	13	6.1%
POST PLACENTAL	165	10	6.1%
WITHIN 48 HOURS	154	8	5.2%
Total	529	31	5.8%
	Follow Up	Removal	
INTRACAESAREAN	210	14	6.6%
POST PLACENTAL	165	8	4.8%
WITHIN 48 HOURS	154	3	1.9%
Total	529	25	4.7%
	Follow Up	Continuation Rate	
INTRACAESAREAN	210	183	87.1%
POST PLACENTAL	165	147	89.1%
WITHIN 48 HOURS	154	143	92.8%
Total	529	473	89.4%

Total follow up was about 54.3%. Of these 78% clients were satisfied and rest had complaint of bleeding PV 7.1%, long thread 3.5%, pain in abdomen 3.2% and discharge 2%. Over all expulsion rate was 5.8% and removal was 4.7% (Table3). The continuation rate at 6 months in our study was 89.4%.

Most common cause of removal was pain in abdomen and increase bleeding PV. Both accounted for equal number for removal of IUCD. The expulsion rate, removal rate and continuation rate was similar in all the three groups with no statistical significance. The data was analysed using z test. There was no case of sepsis or perforation.

Discussion

This study showed that most of the women were satisfied with postpartum insertion of IUCD indicating its important place within the basket of post partum family planning methods.

Acceptance of PPIUCD varied from 7% to 46.2% in the study done by T R Sudha et al [6] and by Swati Singh et al[10] respectively. While acceptance rate in our study was 16.5% which lies in between the above range.

Study done by Swati Singh et al[10] and S Mishra[13] showed that PPIUCD acceptance was better with education. Similar results were seen in our study.

In the study done by Woo et al[11] and Nishi Garg et al[12] follow up was 72% and 77.3% respectively while in Swati Singh et al[10] study follow up was 42.3%. In our study follow up was 54.3%, women who came from remote areas for delivery were lost to follow up.

In the studies conducted by S Mishra[13] the most common complaints were bleeding 23.5% and expulsion 8.9%. Similar results were noted in the present study; vaginal bleeding 7.1% remain the most common complaint followed by expulsion 5.8%. Other common complaints were long thread 3.5%, pain in abdomen 3.2% and discharge 2%.

In the present study the follow up at 6 months showed expulsion rate of 5.8% among 529 women followed, which is comparable to expulsion rate of 5.6% reported among 210 women in a hospital in Hubli , Karnataka state in India,[14] 1.6% among 3000 women in a hospital in Paraguay,[15] and 5.6% women among 305 in Lusaka, Zambia.[16]

Request for removal of IUCD in our study was 4.7% which is comparable with 7.6% reported in Hubli, India14, 3.4% among women in Paraguay15 and 3% among women in Zambia.16 In our study continuation rate was 89.4% which is comparable to 89% and 81.6% as reported by Woo et al[11] and Swati Singh et al[10] respectively.

There were studies conducted in past comparing PPIUCD insertion in postplacental and intra cesearean period but very few studies comparing immediate insertion (Post Placental) and delayed insertion (within 48 hours of delivery). According to Cochrane database Systematic Review 2015 by Grimes et al[17], of 9 RCTs, only one directly compared immediate postpartum insertion with delayed insertion and they found expulsion was more likely for immediate group than delayed insertion group but in our study no statistical difference was found in expulsion, removal and continuation rate in all three groups(post placental, within 48 hours of delivery or intra caesarean).

Thus in post partum period PPIUCD is an effective tool to reduce unmet need of contraception.

Limitation of Our Study

Sample size was small and further study with larger sample size is recommended. Long term follow up is required for retention of IUCD.

Conclusion

PPIUCD is a safe and effective method of postpartum contraception which can be provided during a single visit for institutional delivery and eliminates the need for a return visit to start contraception. It is an ideal method of contraception especially in our country (India) where population control is the biggest challenge and without the option of immediate insertion, many women may never return for contraceptive advice.

References

1. Maternal mortality in 1990-2015 – World Health Organization, Page 1. www.who.int/gho/maternal_health/countries/ind.pdf
2. Brunson M R, Klein D A, Olsen C H. Postpartum contraception: initiation and effectiveness in a large universal healthcare system. American Journal of Obstetrics and Gynecology 2017, 1.e1-8. doi: 10.1016/j.ajog.2017.02.026
3. Kumar S, Sethi R et. Women's experience with postpartum intrauterine contraceptive device use in India. Reproductive Health 2014; 11: 32. doi: 10.1186/1742-4755-11-32
4. Sok C, Sanders J N, Saltzman H M, Turok D K. Sexual Behaviour, Satisfaction and Contraceptive use among Post-Partum Women 2016. Journal of Midwifery Womens Health 61(2), 158-65. doi: 10.1111/jmwh.12409.
5. The National Family Health Survey 2015-16 India(NFHS-4). rchiips.org/NFHS/pdf/NFHS4/India.pdf
6. Sudha T R B, Girija B S D, Doreswamy N, Shyamala. Feasibility of post partum insertion of intra uterine contraceptive device- Expanding the use of intra uterine device in post partum period– A cross sectional study in developing country, India 2014. IJCRR; 6(14): 38-48
7. Buhling K J. Worldwide use of Intrauterine contraception: A review 2014. Journal of Contraception. Vol 89, Issue3, March 2014, Page 162-173. https://doi.org/10.1016/j.contraception.2013.11.011
8. Post Partum IUCD Reference Manual, New Delhi. Family Planning Division, Ministry of Health and Family Welfare. Government of India. 2010, Page 6.
9. Lim S S, Dandona L, Hoisington J A, James S L, Hogan M C, Gakidou E. India's Janani Suraksha Yojana, a conditional cash transfer programme to increase birth in health facelities: an impact evaluation. Lancet 2010;375:2009-2023. Doi: 10.1016/S0140-6736(10)60744-1.
10. Singh S, Malik R, Ahalawat R, Taneja B K. Evaluation of efficacy, expulsion and safety of post-placental and intra-caesarean insertion of intrauterine contraceptive devices. International Journal of Reproduction, Contraception, Obstetrics and

Gynaecology. Vol 4, No 6 (2015). DOI: http://dx.doi.org/10.18203/2320-1770.ijrcog20151304
11. Woo I, Seifert S, Hendricks D, Jamshidi R M, Burke A E, Fox M C. Six-month and 1-year continuation rates following postpartum insertion of implants and intrauterine devices. Contraception. 2015 Dec;92(6):532-5. doi: 10.1016/j.contraception.2015.09.007.
12. Garg N, Grover S, Kaur B. Postpartum IUCD: Its acceptance and complications. International Journal of Reproduction, Contraception, Obstetrics and Gynaecology. Vol 6, No 7 (2017) http://dx.doi.org/10.18203/2320-1770.ijrcog20172919
13. Mishra S. Evaluation of Safety, Efficacy, and Expulsion of Post-Placental and Intra-Cesarean Insertion of Intrauterine Contraceptive Devices (PPIUCD). The Journal of Obstetrics and Gynecology of India (September–October 2014) 64(5):337–343. Doi:10.1007/s13224-014-0550-3
14. Kittur S, Kabadi Y M. Enhancing contraceptive usage by post-placental intrauterine contraceptive devices (PPIUCD) insertion with evaluation of safety, efficacy, and expulsion. Int J Reprod Contracept Obstet Gynecol. 2012;1:26–32. doi: 10.5455/2320-1770.ijrcog001112.
15. Araujo V B, Ortiz L, Smith J. Postpartum IUD in Paraguay: a case series of 3000 cases. Contraception. 2012;86:173–186.
16. Blumenthal P, Shiliya N, Neukom J, Chilambwe J, Vwalika B, Prager B, Gupta P, Espey E, Eber M. Expulsion rates and satisfaction levels among immediate postpartum IUD users in peri-urban Lusaka, Zambia. Contraception. 2011;84:320.
17. Grimes D A, Lopez L M, Schulz K F, Van Vliet H A, Stanwood N L. Immediate post-partum insertion of intrauterine devices. Cochrane Database Syst Rev. 2010; doi: 10.1002/14651858.CD003036.pub2.