

A Prospective Study of the Acceptability, Compliance and Safety of Post-Partum Intrauterine Contraceptive Device Insertion at a Tertiary Care Hospital

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Abstract: Our aim was to study acceptability of PPIUCD in our target population, based on their demographic variables including parity and mode of delivery. Method : The study was conducted at V.S. General Hospital, Ahmedabad from 1st June, 2016 to 31 December, 2016. CuT 380A was inserted in accepters who fulfilled the Medical Eligibility Criteria and had no contraindications for PPIUCD. They were followed up for a period of one year, and studied the various complaints and complications associated with PPIUCD insertion. Conclusion: Both the acceptance and actual insertion of IUCD were low probably because the use of IUCD is a new concept in the community. Inserting CuT 380 A at 10 minutes after placental delivery is safe leading to the expanding of the usage of IUCD meeting the unmet needs. The expulsion rates would be minimal if it was inserted by a trained provider and placed at the fundus. Even though expulsion rate high with IUCD, acceptance was high when it is inserted in postpartum period. Results: 2% of the women who delivered vaginally at VSGH, Ahmedabad chose PPIUCD and 7% of those who undergone C-Section chose PPIUCD. 100 of those who received a PPIUCD (256) returned for a follow up visit which is 39%. 48.04% of those who inserted IUCD were 2nd para and 37.5% primi para, 11% 3rd para and only 3.47% of 4th para opted for IUCD. 6% of all patients demand removal and 3% demand re-insertion. PPIUCD continuation rate in my study is 83.9%. Only 1 patient had misplaced IUCD in follow up, apart that no patient encountered any serious complication.

Keywords- Postpartum contraception, Postpartum contraceptive device, Acceptability, Intrauterine contraceptive device-IUCD, ND-Normal Delivery, CS- Cesarean section.

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I. Introduction

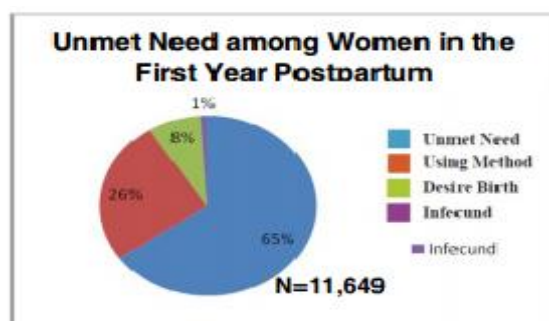
India, the second most populous country of the world, it houses almost 17.3% of the world's protected couples and 20% of world's eligible couples with unmet need. Therefore, large population size of India not only impacts its own but also the global health indicators.

India is One of the first countries to launch a national programme to reduce birth rates, India instituted the National Family Welfare Programme (NFWP) 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 India. The family planning services in India are skewed towards sterilization, particularly sterilization of women. Use of a modern method among married women in India is 49% and female sterilization accounts for 77% of this group. Approximately 13 percent of currently married women between the ages of 15 and 49 in India have an unmet need for contraception. Of the 13 percent of women with unmet need nationwide, about 6 percent have an unmet need for spacing methods and 7 percent for limiting methods. The unmet need for spacing is generally highest among women with one living child. While FP needs of the majority of women (86%) who wish to stop childbearing are being satisfied, the needs of women who wish to delay or space childbearing remain largely unsatisfied, (only 30% of these women have their needs met). (<https://www.fhi360.org-india1-family-planning-status>). (<https://www.ncbi.nlm.nih.gov>)

Female literacy is only 54%, and women lack the empowerment to take decisions, including decision to use reproductive health services, thus the need to take action for maternal benefit for contraception choice is on service care provider. The World Health Organization (WHO) estimates that, of 536,000 maternal deaths occurring globally each year, 136,000 take place in India. Estimates of the global burden of disease for 1990 also showed that India contributed 25% to disability-adjusted life-years lost due to maternal conditions alone (<https://www.ncbi.nlm.nih.gov>).

In 2017, Ministry of Health and Family Welfare launched Mission Pariwar Vikas, a central family planning initiative. The key strategic focus of this initiative is on improving access to contraceptives through delivering assured services, ensuring commodity security and accelerating access to high quality family planning services.

An analysis of Demographic and Health Survey (DHS) data from 52 developing countries revealed that children conceived less than 24 month after the birth of next oldest sibling had a one to two time (1.1-2.3) higher risk of dying with in the 1st year of life then children conceived 36 to 47 month apart. The DHS analysis also demonstrated that the likelihood of a child becoming stunted or chronically undernourished increase substantially with decreasing birth intervals. The importance of having healthy spacing of pregnancy in India is emphasized by the fact that approximately 27% of births occur in less than 24month after previous birth. The postpartum period provides opportunity to the health care provider for counselling a woman, regarding the available family planning methods, including IUD insertion, to avoid unintended conceptions. Family planning can avert more than 30% of maternal deaths and 10% of child mortality if couples spaced their pregnancies more than 2 years apart (Cleland J et al, 2006). Short intervals between births are linked with higher maternal and child mortality and morbidity [8]. Postpartum family planning (PPFP) is the prevention of unintended and closely spaced pregnancies through the first twelve months following childbirth [7]. Postpartum women need a range of effective contraceptive methods to be able to prevent an unplanned pregnancy, within a short interval [7,8].



Source: USAID/ACCESS. 2009. Family Planning Needs during the Extended Postpartum Period in India

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. The Copper T 380A intra-uterine contraceptive device (IUCD) is a highly effective, non-hormonal method that can be safely used by all women regardless of breastfeeding status during this interval. According to the World Health Organization Medical Eligibility Criteria, an IUCD can be inserted in the 48 hours postpartum, referred to here as a postpartum IUCD (PPIUCD), or after four weeks following a birth [9]. A 2010 Cochrane review concluded that PPIUCDs were a safe and effective contraceptive method. The public health benefits from PPIUCDs stemmed from the women's increased accessibility to PPIUCDs following facility births, as PPIUCDs could be offered at health facilities after childbirth. This, in turn, decreased opportunity and other costs incurred by clients who may otherwise have to return to facilities to access contraceptive services [10].

In India, the 2005–2006 National Family Health Survey (NFHS) reported that 61% of births were spaced less than three years [11] and that 22% of married women had an unmet need for family planning. A subsequent stratified analysis suggested that 65% of women in the first year postpartum had an unmet need for family planning [6]. IUCDs are used by only 2 % of current users of contraception in India [re 11]. Recognizing the potential impact of improved family planning programming on maternal and child health, the Government of India has committed to expanding access to family planning as part of achieving Millennium Development Goals 4 and 5, related to reduction of child and maternal mortality. In 2005, the Government of India launched the Janani Sukraksha Yojana (JSY), a conditional cash transfer scheme, to encourage the use of facilities for care at birth [7]. Since the inception of JSY, facility-based births in the public sector have increased from 700,000 in 2005 more than 11 million in 2012 [8]. (<https://www.ncbi.nlm.nih.gov>)

With increasing numbers of women electing to give birth in health institutions, the Government of India decided to strengthen PPFP and to introduce PPIUCD services in a phased manner.

Postplacental insertion greatly reduces the risk of subsequent pregnancy and eliminates the need for a return visit to start contraception. Without the option of immediate insertion, many women may never return for services or may adopt less effective contraception. Family planning is low cost intervention that reduces

maternal, infant and under-5 mortality. The time during pregnancy and that immediately after delivery may be the only time for the physician to connect with women who are poorly motivated to obtain routine health care, best described as 'crisis-oriented'.

Many of these women welcome the opportunity to delay their next pregnancy when are counseled well. The post-partum insertion of an IUCD is likely to bring about a revolutionary change in contraceptive use in the country. Opportunity for a success is excellent, because having just given birth, the woman is clearly not pregnant, and She is likely to be motivated to consider long-acting methods.

IUCD has no negative effects on lactation and may in fact increase its duration in some women and does not affect the quality of the breast milk, postpartum IUCD (PPIUCD) offers numerous advantages: ease of insertion, minimal adverse impacts on breast-feeding, cost-effectiveness, relief of overcrowded outpatient facilities and protection against unwanted pregnancy and consequent abortion [5]. In addition insertion complaints caused by lochial blood and cramping are masked.

II. Objectives

- 2.1 **To determine proportion of women accepting immediate PPIUCD insertion.**
- 2.2 To describe the factors associated with acceptability of immediate PPIUCD insertion in women according to their socio-demographic and obstetrics characteristics, and future pregnancy desires.
- 2.3 To determine the rates of uterine perforation, expulsion, pelvic infection, lost strings and displacement following PPIUCD insertion among the acceptors by 6 to 18 months.

III. Methods

3.1 Study Population:

The study population included all women who delivered at Labour room at VS General hospital, during the study period.

3.2 Methods: This was an open label prospective Cohort study.

Criteria for considering studies for this review

Different devices or different insertion techniques:

- immediate postplacental insertion (within 10 minutes of placenta delivery)
- early postpartum insertion (10 minutes to hospital discharge)

The IUCD should not be inserted from 48 hours of delivery to 6 weeks following delivery because it increases chances of infection and expulsion.

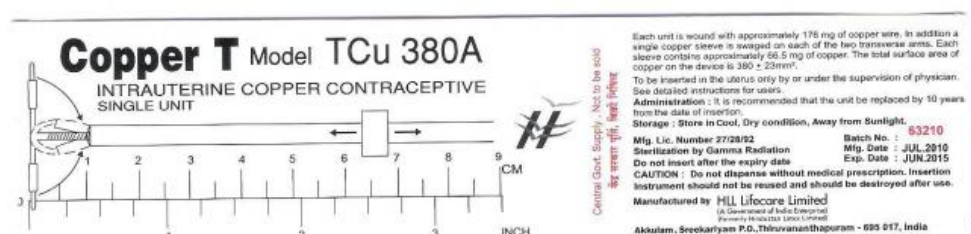


Figure 1: Copper T model CuT380.

3.3 Prior to Discharge patient was instructed following:

- IUCD Client card, showing type of IUCD and date of insertion were prepared.
- She was informed about the IUCD side effects and normal postpartum symptoms.
- 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, especially if accompanied by not feeling well, fever or chills,
 - Feeling of being pregnant
 - Suspicion that the IUCD has fallen out.

The study was approved by the ethics committee of the Federation of Obstetric and Gynaecological Societies of India (FOGSI).

3.4 Inclusion criteria

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

3.5 Exclusion criteria

- Temperature >38°C during or after labor
- <8 gm% Hb
- ROM for >24 hours prior to delivery
- Medical conditions as Diabetes Mellitus, Hypertension
- PPH
- Having active STD or other lower genital tract infection or high risk for STD.
- Manual removal of the placenta
- Known uterine abnormalities e.g., Bicornuate/septate
- Uterus, uterine myomas,

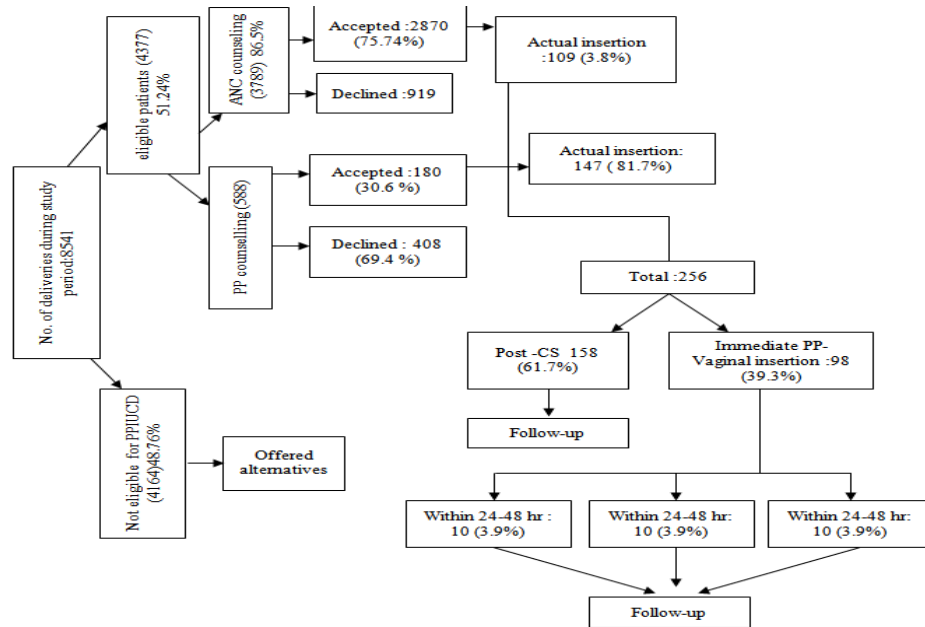


Figure 2 : Study Design

IV. Results And Discussion

At VSGH during my study period 100 of those who received a PPIUCD (256) returned for a follow up visit which is 39%. Most of these women are seen in person. Approximately 2% of the women who delivered vaginally chose PPIUCD and 7% of those who undergone C-Section chose PPIUCD.

Chart and table 1 showing various methods of contraception usage from 1st June,2016 31st December,2016

Table 1 Methods Of Contraception Widely Used

1	Total no. of CONDOM used	27960 (92.08%)
2	Total no. of ORAL PILLS used	1614 (5.31%)
3	Total no. of TL done	463 (1.5%)
4	Total no. of CuT inserted (PP+ Interval)	341 (1.1%)
5	Total no. of PPIUCD inserted	256 (0.84%)
	TOTAL	30378

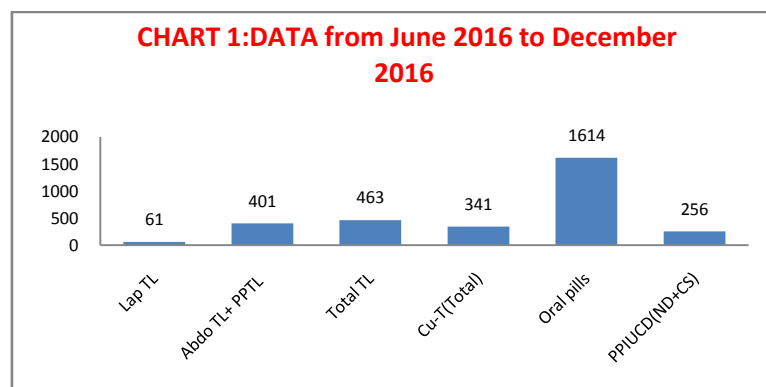


Table 1 and Chart 1 showing that Condoms and Oral pills are still the most widely used methods of contraception which are still lower than IUCD. In my study group 92.08% used Condoms as contraception, 5.31% used oral pills, 1.5% preferred TL and 1.1% preferred IUCD.

Table 2 PPIUCD insertion time

Sr. No.	PPIUCD insertion time	No. of patients Out of 256 (%)
1.	within 1 hr	190 (74.21%)
2.	within 2-24 hr	55 (21.58%)
3.	Within 24-48 hr period	11 (4.2%)

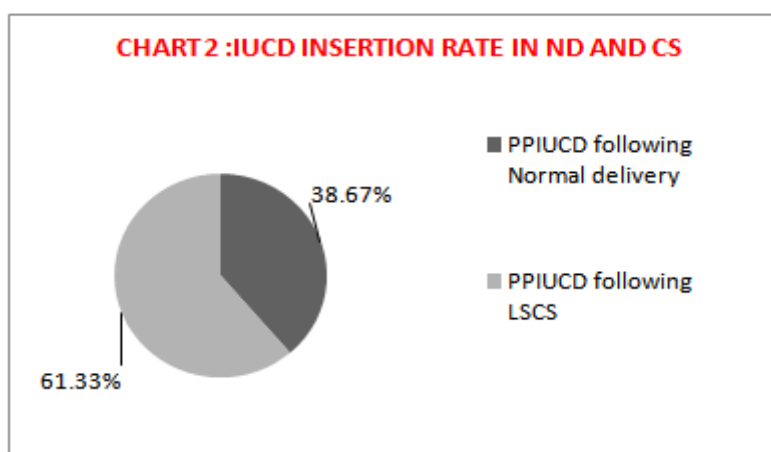


Table 2 showing PPIUCD insertion timing: 74.21% patients were provided CuT-insertion within 1 hr period and 25.78% patients provided CuT-insertion within 48 hrs which corresponds to a study : Kumar et al. Reproductive Health 2014, 11:32 (<http://www.reproductive-health-journal.com>) in which 82% of PPIUCD inserted within 1 hr and 11% IUCD inserted within 48 hr. Chart 2 showing IUCD insertion after ND rate is 38.67% and after CS is 61.33% which corresponds to A Cross Sectional Study on Acceptability and Safety of IUCD among Postpartum Mothers at Tertiary Care Hospital, Telangana in which 83.73% in CS and 16.26% after normal delivery.

Chart 3 showing total delivery rate at our hospital during research period.

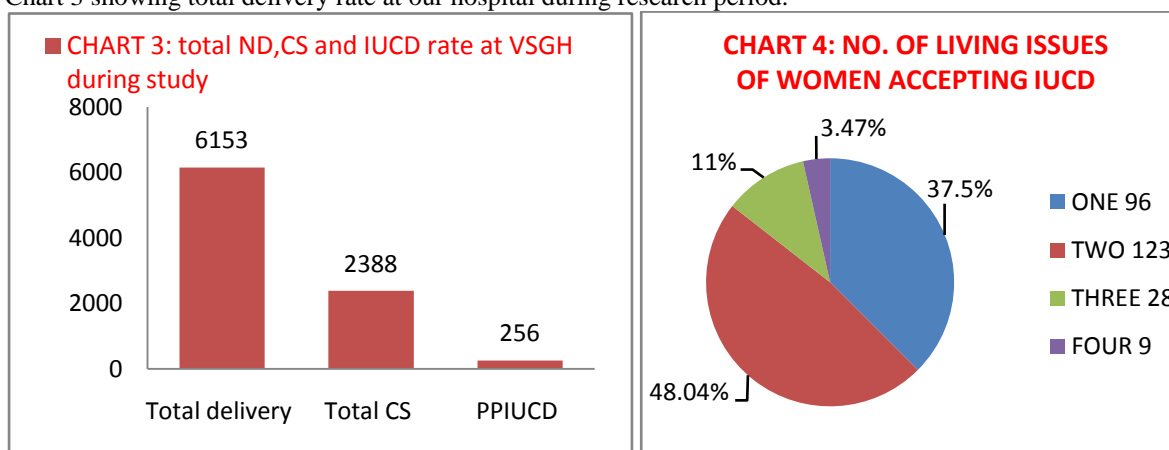


Chart 4 showing: My study result shows that 48.04% of those who inserted IUCD were 2nd para and 37.5% primi para , 11% 3rd para and only 3.47% of 4th para opted for IUCD. 4th or more para group chose Tubal ligation as a method of choice rather than IUCD. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4062773/table/T1> showing health report of 2014 correlates with this data in which 53% Primi para chose CuT insertion, 33% 2nd Para, 10% 3rd para and 4% of > or 4th para chose CuT insertion.

Red bar suggest PPIUCD following normal delivery and blue bar suggest PPIUCD following CS,

Table 3 complications in IUCD:

Sr. No.	Complaints	Out of 99 patients in ND group	Out of 156 patients in CS group
1.	lower abdomen pain	8 (8.08%)	9 (5.77%)
2.	P/V bleeding or spotting	15 (15.15%)	24 (15.39%)
3.	long thread from P/V	1 (0.01%)	-
4.	IUCD thread not felt	10 (10.10%)	56 (35.9%)
5.	infection	4 (4.04%)	10 (6.4%)
6.	Patient demand removal	15 (15.15)	10 (6.4%)
7.	Patients lost in fup	38 (38.38%)	38 (24.35%)
8.	Expulsion	11 (11.11%)	6 (3.84%)
9.	Misplaced IUCD	0	1 (0.6%)

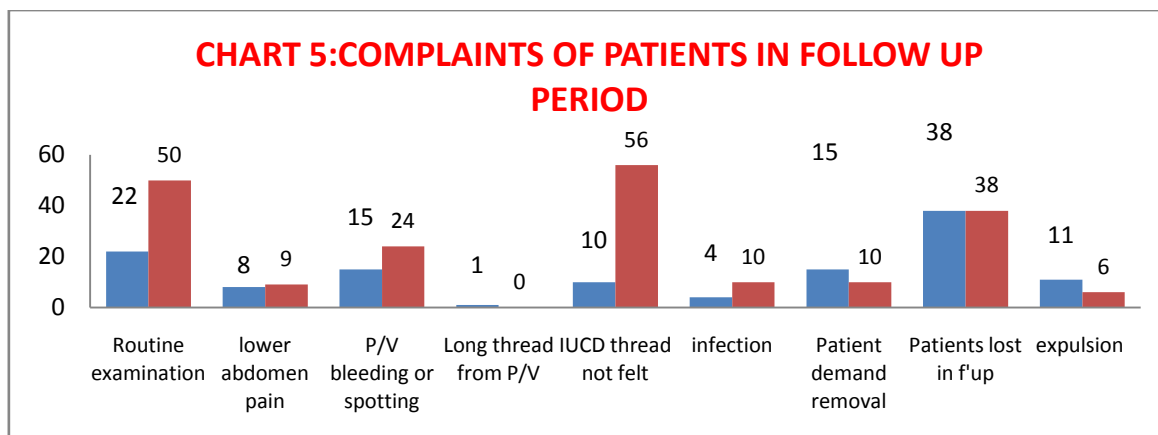


Table 3 and Chart 5 showing complications following IUCD insertion in my study group, Which shows that patients who delivered by CS followed up in OPD for routine examination more than in ND thus less patients lost to follow up in CS group. There were no serious complications associated with immediate IUD insertion. PPIUCD continuation rate in my study is 131 out of 156 (including those who lost to follow up assuming they might not have removed IUCD elsewhere) :83.9%. Only 1 case of misplaced IUCD following CS was observed during study period for which hysteroscopic removal was done after confirmation of site in USG. Study results are comparable to one study by Mishra S et al [13] showing PPIUCD (Inserting CuT 380 A by 10 minutes after placental delivery) was demonstrably safe, effective, has high retention rate. Total women counselled 3209, Accepted 564, Declined 2645, lost to follow up 130(23.04%), Followed up 434, COMPLICATIONS: 190(Expulsion 39(9%), Bleeding 102(23.5%), String problem 49(11.3%), Removal 43(9.9%), Continuation 352(81.1%). Study by Joao Henrique Araujo et al thesis: a group of 50 postplacental IUD insertion immediately after vaginal delivery and caesarean section which showed, The expulsion/removal rate was 32% among the subject who an IUD inserted after vaginal delivery. There was no expulsion or removals in those submitted caesarean sections. Shah Let al: Intervention by NCMNH was implemented from March 2012 - Sept 2013. 78.3% had no complaints, 134 (5%) expulsion, 39 (1%) had minor infections, 1.9% had missing strings, 12.1% had side effects and 135 (5%) had it removed. 2 pregnancies with IUCD in situ have been reported. PPIUCD continuation rate after 6 month is 409 (85%) amongst the clients followed up. [T9]

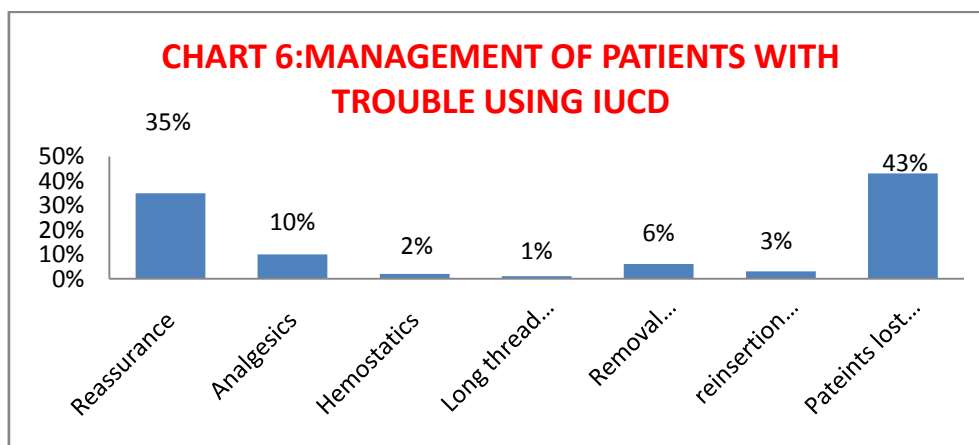


Chart 6 showing 6% of all patients demand removal and 3 % demand re-insertion which can be correlated to a study:” Enhancing contraceptive usage by post-placental intrauterine contraceptive devices (PPIUCD) insertion with evaluation of safety, efficacy, and expulsion” by Sahaja Kittur*, Y. M. Kabadi(Department of Obstetrics & Gynecology, Karnataka Institute of Medical Sciences, Hubli) in which on demand removal rate was 7.61% and re-insertion rate after expulsion was 2.38%.

Only 1 case of misplaced IUCD following CS was observed during my study period for which hysteroscopic removal was done after confirmation of site in USG.No cases of uterine rupture were observed during my study period.

V. Conclusion

At VSGH during my study period 100 of those who received a PPIUCD (256) returned for a follow up visit which is 39%. Most of these women are seen in person .Approximately 2% of the women who delivered vaginally chose PPIUCD and 7% of those who undergone C-Section chose PPIUCD. Only 1 patient had misplaced IUCD in follow up, apart that no patient encountered any serious complications associated with immediate IUD insertion. From this study, It can be concluded that PPIUCD is satisfactory approach as a post-partum family planning method irrespective of mode of delivery , PPIUCD is safe and reliable approach for spacing births and to meet unmet need of family planning. It has abundant scope in India. PPIUCD continuation rate in my study is 83.9%.Thus PPICD may be a new concept in the society but it’s widely accepted if patients are counselled and guided properly.. Continuation and follow up rate was higher in Cesarean group rather than Normal delivery group.

References

- [1]. Samuel TJ. The development of India’s policy of population control. *Milbank Mem Fund Q.* 1966; 44:49-67.
- [2]. International Institute for Population Sciences (IIPS) and Macro International. *National Family Health Survey (NFHS-3), 2005-06: India: Volume I.* Mumbai: IIPS; 2007
- [3]. United Nations Population Fund (UNFPA). Programme of Action adopted at the International Conference on Population and Development, Cairo, 5-13 September 1994. New York: United Nations; 1994.
- [4]. NFHS III Report 2005-06. Govt. of India and International Institute of Population Sciences
- [5]. <https://www.fhi360.org-india1-family-planning-status>
- [6]. <https://www.ncbi.nlm.nih.gov>
- [7]. Cleland J, Bernstein S, Ezeh A, Faundes A, Glasier A, Innis J. Family planning: the unfinished agenda. *Lancet.* 2006;368:1810–1827. doi: 10.1016/S0140-6736(06)69480-4. [PubMed] [Cross Ref]
- [8]. Rutstein S. Further Evidence of the 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. DHS Working Papers No. 41. Macro International; 2008.[PubMed]
- [9]. World Health Organization. *Medical Eligibility Criteria for Contraceptive Use.* 4. Geneva: World Health Organization; 2010.
- [10]. Grimes D, Lopez LM, Schulz KF, Stanwood NL. Immediate post-partum insertion of intrauterine devices. *Cochrane Database Syst Rev.* 2010;12 CD003036. [PubMed]
- [11]. International Institute for Population Sciences (IIPS) and Macro International. *National Family Health Survey (NFHS-3), 2005–06, India, Key Findings.* Mumbai, IIPS, 2007. Accessed at <http://www.measuredhs.com/pubs/pdf/SR128/SR128.pdf> on March 14, 2013.
- [12]. Post-partum IUCD reference manual; Family Planning Division.Ministry of health and family welfare. Govt. of India.2010:1:2
- [13]. Kittur S, Kabadi YM. 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.

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