Asian Pac. J. Health Sci., **2016; 3 (4):55-64** **e-ISSN: 2349-0659, p-ISSN: 2350-0964**

Document heading **doi: 10.21276/apjhs.2016.3.4.9** **Research Article**

Acceptance, perception, experience and satisfaction of the couple with postpartum intrauterine contraceptive devices (PPIUCD) insertion

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ABSTRACT

Family planning can avert nearly one-third of maternal deaths and 10% of child mortality when couples space their pregnancies more than two years apart**.**In India 65% women in 1st year of postpartum period have unmet need for FP, but only 26% are using any contraceptive**.** Delivery may be the only time when they come into contact with health care providers; thereafter the chances of returning for contraceptive advice are uncertain. Insertion of intrauterine contraceptive device (IUCD) at 10 minutes after delivery is appealing. The Copper T 380A intra-uterine contraceptive device (IUCD) is a highly effective, non-hormonal method, long acting reversible and coitus independent contraceptive device that can be safely used by all women regardless of breastfeeding status during this interval. Thus increasing awareness and creating demand for postpartum intra-uterine contraceptive devices (PPIUCD) is essential. Apart from the fact that its usage has to be increased, follow-up of the cases after insertion is an important factor since complications related to IUCD are extensive and vary with individuals. Thus routine follow-ups and early measure is the base of PPIUCD insertion. Satisfaction related to IUCD insertion varies considerably. The studies also include the input of the husband's opinion regarding the satisfaction related to IUCD as many problems related to interference in the sexual activity were recorded. We will conduct a study for acceptance, perception, experience and satisfaction of the couple with postpartum intrauterine contraceptive devices (PPIUCD) insertion at our institute.**Objectives:**1. Acceptability of postpartum intrauterine devices as a contraceptive method among women of reproductive age. 2. To record the experience during the procedure and first six weeks after insertion of IUCD. 3. To learn about satisfaction with PPIUCD among the couple. 4. Desire to continue the service in future. **Methods: Study design**- This will be an open prospective and longitudinal study to assess the acceptance, perception, experience and satisfaction of the 100 couples in the reproductive age group (19-49 years) who are willing for; with postpartum insertion of the Cu T 380 A within 10 minutes of placental expulsion. Couples will be recruited in this study after obtaining written informed consent. Institutional ethical committee clearance will be taken. **Exclusion criteria** will be severe anemia Hb< 8gm%, Premature rupture of membrane, Temperature >38°C during or after labor, and the patients with Postpartum Hemorrhage. **Method of insertion:** The Copper T model Cu T 380 A will be inserted with all aseptic precautions within 10 minutes of placental expulsion with a sponge holder and fundal placement will be ensured. String will be cut to the level of the cervix. The string will be visible at the cervix after the insertion. Participants will be interviewed prior and after insertion of PPIUCD and then six weeks later. **Data collection:** Data will be collected from participants using a structured questionnaire that includes basic demographic information, questions related to acceptance and perception of pain on insertion of PPIUCD. After six weeks, PPIUCD clients will again be interviewed using a structured follow-up questionnaire that will collect information about the clients overall satisfaction, problems or any complications, and retention /expulsion of the PPIUCD. In the cases where the client fails to return to the health facility for her follow-up visit, she will be contacted by telephone for the follow-up interview. **Data analysis:** Continuous variables will be reported using mean (standard deviation) and categorical variables will be reported using percentages. For two group comparisons, wherever applicable a student *t*-test will be used to compare means of continuous variables, and chi-square tests shall be used to compare categorical variables.**Results:**1.Acceptance of PPIUCD was 88% after counseling than 46% before counseling. 2. 79.54% did not have any pain during insertion. 3. 17.06% had mild discomfort while insertion and only 03.40% had painful insertion. 4. After 6 weeks 83% women followed-up. Rest 17% could not be contact even through telephones. 5. Major complications encountered were abdominal pain and expulsion 13.6% each than other complications. However 54.5% women had no complications. 6. 75.3% women were willing to continue the PPIUCD, rest demanded removal either due to complications or family opposes being the major reason. 7. Overall satisfaction rate was 78% in women and 73.9% in husbands **Conclusions:** The study thus concludes that acceptance rate was significantly improved after proper counseling and the complication rate of the PPIUCD were less as compared to the overall benefits.

Key words: Postpartum intrauterine contraceptive devices, safe and long acting reversible method, acceptance increased on counseling, less complications on proper insertion

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Introduction

Postpartum family planning (PPFP) is the prevention of unintended and closely spaced pregnancies through the first twelve months following childbirth[1]. During postpartum period there are increased chances of having unintended pregnancy within 24 months of a previous birth which has higher risk of adverse outcomes like abortions, premature labor, post-partum hemorrhage, low birth weight babies, fetal loss and maternal death. In India 65% women in 1st year of postpartum period have unmet need for Family Planning, but only 26% are using any contraceptive [figure1]

Postpartum women need a range of effective contraceptive methods to be able to prevent an unplanned pregnancy, within a short interval[2].Among the options available, the multi-year cost of the Copper T380A IUD makes it one of the most cost-effective contraceptive options available [Figure2]. It is inserted postpartum (post-placental and intra-cesarean) within 10 minutes of delivery[3].This method is more appealing since delivery may be the only time when they come into contact with health care providers; thereafter the chances of returning for contraceptive advice are uncertain. Women can be easily motivated during this time since they have already delivered a child and do not require daily motivation as in case of pills. This period is also ideal because the women is not pregnant and other complications like infection, anemia, postpartum hemorrhage or any uterine abnormalities are ruled out. 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[4].The IUCD should NOT be inserted from 48 hours to 6 weeks following delivery because there is an increased risk of infection and expulsion. 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[5].It was reported in the summary of National Rural Health Mission(NRHM) program 2012 that introduction of Janani Shuraksha Yojana (JSY) has increased the facility-based births in the public sector from 700,000 in 2005 to more than 11 million in 2012[5]. Since number of institutional deliveries have increased due to introduction of JSY, a conditional cash transfer scheme for opting institutional delivery and maternal care, it is easier for government to strengthen PPFP and to introduce PPIUCD services in a phased manner, with the first batch of clinician trainings, in 2009. Government of India has introduced PPIUCD in the National family planning programme since 2012 due to case-load of deliveries. The provision of PPIUCDs is being rapidly scaled up in India, with facilities in at least nineteen states offering the method in 2013. PPIUCDs are still emerging as a relatively new contraception choice in India. While follow-up data on complications with PPIUCD insertions were available from international sources, given the scale at which PPIUCD services are being introduced in India, it was important to generate country-based evidence on the post-insertion outcomes after the introduction of PPIUCD program. Information related to the demographic profile of women who accept PPIUCDs, the dynamics of their decision making process, their satisfaction with this method of contraception, and complications with the IUCD have not been well characterized. Thus selecting the cases during postpartum period and motivating them is an easier task then asking them to visit after 6 weeks for Intra-uterine contraceptive device (IUCD). Thus Acceptance, Satisfaction and Experience of both wife and husband demand a greater role in further continuation of PPIUCD as a contraceptive. Therefore, we conducted a prospective and observational study of a large cohort of women who received PPIUCDs. Our specific aims were to determine the demographic characteristics and decision-making among women who accepted PPIUCDs, their perception and satisfaction with PPIUCDs, and complications that occurred after insertion of PPIUCDs. Since it was observed that the literacy rate and awareness regarding contraceptive use is low, counseling the patients about it was an important step in raising the acceptance rate. Thus counseling them and solving their doubt was the main focus of this study.

Aim of the study was:

1. To find out acceptability of postpartum intrauterine devices as a contraceptive method among the couple of reproductive age before and after counseling them.

2. To record the experience during the procedure and first six weeks after insertion of IUCD.
3. To learn about satisfaction with PPIUCD among the couple.
4. Desire to continue the service in future.

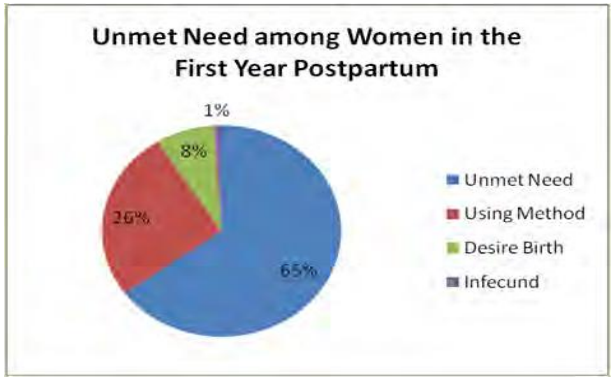

Fig 1: Source: USAID/ACCESS. 2009. Family Planning Needs during the Extended Postpartum Period in India

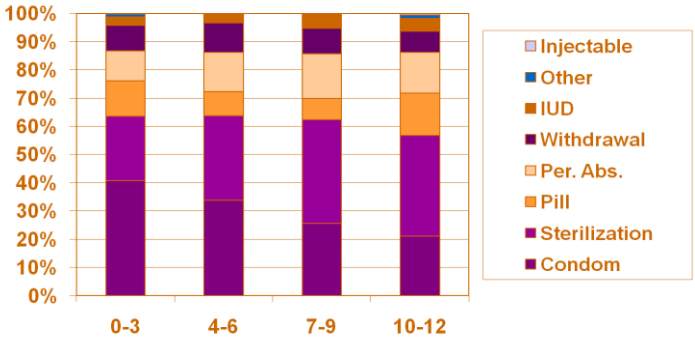

Fig 2: Family planning mix in Postpartum period

Fig 3: cuT380A

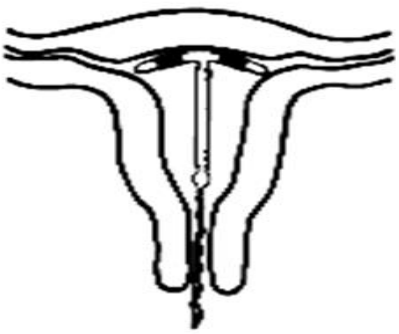

Fig 4: Copper T insertion

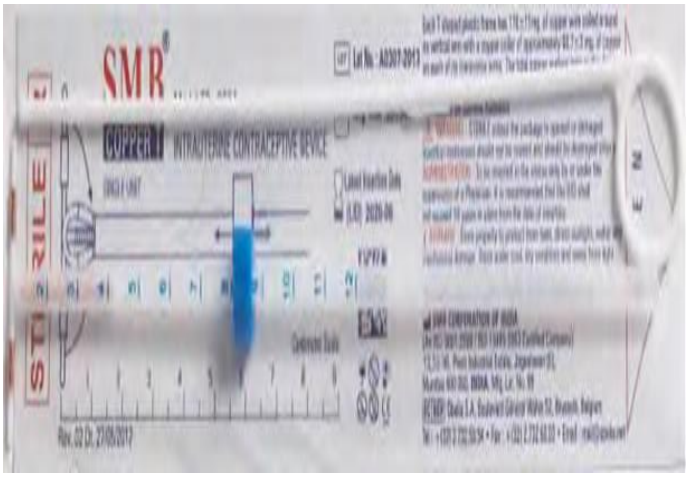

Fig 5: Copper T 380 A

Methods

Study design- This is an open prospective and longitudinal study to assess the acceptance, perception, experience and satisfaction of the 100 couples in the reproductive age group (19-49 years). The study is conducted in the postnatal ward of a Medical College, from April 2015 to June 2015. The women who have delivered vaginally or by caesarian section were counseled by the medical authorities or counselors and the acceptance rate of intrauterine devices were noted before and after counseling. The subjects who were willing received postpartum insertion of CuT 380 A within 10 minutes of placental expulsion were included in the study. Couples were recruited in this study after obtaining standardized oral consent in their local language. The study protocol was approved by the ethics committee and the necessary clearance was obtained.

Exclusion criteria for the women were severe anemia (Hemoglobin (Hb) < 8gm%, recorded by Hb estimation prior to the latent labor), Premature rupture of membrane, Temperature >38°C (axillary temperature taken during or after labor), and the patients with Postpartum Hemorrhage.

Steps in Family Planning Counselling: The GATHER Approach

GATHER means:

G -Greet the client respectfully
A -Ask them about their family planning needs
T -Tell them about different contraceptive options and methods
H- Help them to make decisions about choices of methods
E -Explain and demonstrate how to use the methods
R- Return/refer; schedule and carry out a return visit and follow up

Method of insertion

The Copper T model Cu T 380 A was inserted with all aseptic precautions within 10 minutes of placental expulsion with a sponge holder and fundal placement was ensured in the women delivering vaginally. In the case of caesarean section, IUCD (Cu T 380 A) was placed inside the fundus through the lower segment incision and then incision closed like routinely. String was cut to the level of the cervix so that it is visible at the cervix after the insertion. Participants were interviewed prior and after insertion of PPIUCD before discharging them. They were asked to visit for the follow up six weeks later or anytime whenever they noticed foul smelling discharge, excessive bleeding, lower abdominal pain or missing thread. Contact details of participants were noted for convenience.

Each SMB Copper - T 380A T frame is made from compound of Low Density Polyethylene and Barium Sulphate (15% - 24%) wound with 176mg of 0.25mm diameter copper wire, and two copper sleeves on horizontal arm providing a surface area of 380mm² ± 23mm². The 'T' is equipped with high-density polyethylene filament for easy removal. **(Figure 3, 4) (Table 1)**

Data collection

Data was collected from participants before giving them discharge using a structured questionnaire which included basic demographic information, questions related to acceptance and perception of pain on insertion of PPIUCD. After six weeks, PPIUCD clients were again interviewed using a structured follow-up questionnaire that collected information about the clients overall satisfaction, problems or any complications (especially for history of expulsion of IUD, excessive bleeding, pain in abdomen or abnormal discharge through vagina), whether any medical help was sorted for problems and retention /expulsion of the PPIUCD. In the cases where the client failed to return to the health facility for her follow-up visit, she was contacted by telephone for the follow-up interview.

Data analysis

Continuous variables were reported using mean (standard deviation) and categorical variables were reported using percentages. For two group comparisons, wherever applicable a student *t*-test was used to compare means of continuous variables, and chi-square tests were used to compare categorical variables.

Results

With the help of a questionnaire, 100 women were screened for the awareness regarding IUCD advantages and disadvantages. Out of them 36% women were aware of the concept of IUCD and 46% women were cooperative for insertion of PPIUCD.**(Table 2)**It was also noted that acceptance rate was higher among the age of 21 to 25 years, after first child birth and with women who had at least 1-2 years gap between two pregnancies. The above parameters indicated that acceptance was high among educated women. Acceptance was higher when counseling was provided by Doctors/ interns/ residents/ medical students (70.5%) during early labor. Most of the women took their own decision and maximum insertions (59%) were made immediately after delivery. It was also noted that about 81.8% women who accepted PPIUCD had never used a method of contraception earlier.**(Table 3)**94.3% women had PPIUCD insertion without any difficulty and 79.54%did not experience any pain. Most preferred method of insertion was intra-cesarean.**(Table 4)**Through a questionnaire, the women were enquired about any complaint regarding IUCD, 90.9% women had no complaints while few experienced pain and bleeding.**(Table 5)** 83% followed up after 6 weeks over phone or through visit and were examined for the presence of IUCD, investigated and treated appropriately for their complains.**(Table 6)**On investigating, 54.5% women had no complaints after 6 weeks of insertion whereas 13.6% had expulsion and abdominal pain. Few had infection or menstrual problems. On providing medical assistance 75.3% women desired to continue whereas rest demand removal. Major cause of removal was related complication (50%) followed by family opposition.**(Table 7)**Women (78%) were satisfied more than their husbands regarding the compliance of IUCD. About 73.9% women desired to use PPIUCD again in future as a contraceptive method.**(Table 8)**

Table 1: Copper T-380A details

Horizonal Arm Length in mm	Vertical Stem Length in mm	Total Active Copper Surface Area
32	36	380mm^2

Table 2: Counseling impact in acceptance of PPIUCD (Cu T380A)

Variables	Number (%)
Awareness regarding IUCD before counseling	**(N=100)**
Yes	36%
No	64%
Acceptance of PPIUCD	**(N=100)**
Acceptance before counseling	46%
Acceptance after counseling	88%

Table 3: Demographic characteristics of client accepted PPIUCD (Cu T380A)

Sr. No	Demographic characteristics	Mean (SD) or number (%)
1.	**Age**	**Total No=88**
	Less than 20	20 (22.7%)
	21- 25	56 (63.6%)
	25-30	10(11.4%)
	More than 30	2(2.3%)
2.	**Parity**	**Total No=88**
	1	47(53.4%)
	2	36(40.9%)
	3	3(3.4%)
	More than 4	2(2.3%)
3.	**Last child birth**	**(n=41)**
	Less than 1 year	15(36.6%)
	1-2 years	21(51.2%)
	2-4 years	5(12.1%)
4.	**Period of counseling**	**N=88**
	ANC	26(29.5%)
	Early labor	54(61.4%)
	After delivery	8(9.1%)
5.	**Counseling provided by**	**(n=88)**
	Doctor/ intern/ resident/ medical student	62(70.5%)
	Nurse	14(15.9%)
	Counselors	12(13.6%)
	ASHA/ANM	0
6.	**Family planning methods used in past**	**(n=88)**
	No methods	72(81.8%)
	IUCD	3(3.4%)
	Pills	5(5.6%)
	Condoms	7(7.9%)
	Injectable	1(1.1%)
	Others	0
7.	**Decision making in choosing PPIUCD was done by**	N=88
	Self	54(62.5%)
	Family	11(12.5%)
	Husband	17(19.3%)
	Mother	4(4.5%)
	Others (in-laws)	2(2.2%)
8.	**Timing of PPIUCD insertion (%)**	N=88
	Immediately after delivery	52(59%)
	During C-section	27(30.6%)
	Within 48 hours	9(10.4%)

Table 4: Perception of pain during insertion (N=88)

Sr.No	Variable	Number (%)
1.	**Method of insertion**	**N=88**
	post-placental	33(37.5%)
	intra-cesarean	55(62.5%)
2.	**Ease of insertion**	**N=88**
	Easy	83(94.3%)
	Difficult	5(5.7%)
3.	**Perception of pain during insertion**	**N=88**

No pain at all	70(79.54%)
Little discomfort	15(17.06%)
Somewhat painful	3(3.40)%

Table 5: Counseling done before discharging the patient (N=88)

Complaints	N=88
No complaints	80(90.9%)
Pain	6(6.8%)
Bleeding	2(2.3%)

Table 6: Follow-up of patients after 6 weeks (N= 88)

1.	**Did not follow-up**	**15(17%)**
2.	Followed-up	73(83%)
	Visited the hospital	30(41%)
	Over phone	43(59%)

Table 7: Experience of PPIUCD after 6 weeks of insertion (N=73)

Sr.No	Variables	Number (%)
1.	**Complaints reported**	**N=73**
	None	48(54.5%)
	Expulsion	10(13.6%)
	Menstrual problems	3(4.1%)
	Abdominal pain / bleeding	10(13.6%)
	Infection	2(2.7%)
2.	**Medical attention sorted for complaints (n=25)**	**N=25**
	Yes	14(56%)
	No	11(44%)
3.	**Period/ timing of expulsion(n=10)**	**N=10**
	Less than a week	6(60%)
	Less than 2 weeks	3(30%)
	3-4 weeks	0
	After 4 weeks	1(10%)
4.	**Rate of continuity**	
	a) Willing to continue	**55(75.3%)**
	Without complications	46(83.6%)
	With complications	9(16.3%)
	b) Demand removal	**18(24.7%)**
	Because of complication	9(50%)
	Husband has opposed/ family pressure	5(27.7%)
	Want to use other method	3(16.6%)
	Others	1(5.5%)

Table 8: Satisfaction among couples after 6 weeks of insertion (N=73)

Sr.No	Variables	Number (%)
1.	Women satisfied	
	Yes	57(78%)
	No	16(22%)
2.	Husband satisfied	
	Yes	54(73.9%)
	No	19(26.1%)
3.	Will recommend PPIUCD to others/ use PPIUCD	

again	
Yes	54(73.9%)
No	19(26.9%)

Discussion (Chart 1)

100 females were included in the study, which were counseled for postpartum intrauterine device insertion by doctors, interns, residents, nurses, counselors, etc. Out of 100 only 36(%) were aware about PPIUCD before counseling. Most of them were literate up to secondary schooling. 88(%) women were ready to insert PPIUCD after counseling. They were counseled on the points that PPIUCD has a long term effect, it is safer, require few follow-up visits and is reversible and does not interfere with breastfeeding. Another important factor was counseling the husband which increased the acceptance rate as well as the follow-up rate.

Period of counseling and counseling provider were main factor in acceptance of PPIUCD. Counseling was mainly provided by medical faculty, resident, intern followed by nurse and counselors. Most of the counseling was provided during the early labor (61.4%) followed by antenatal period. Explaining the risk factors of labor like caesarean section and advantage provided by PPIUCD over it was easy in this period. Among the acceptors maximum were primigravida (47 women(53.4%)) and in the age group of 21 to 25 years. 72 women (81.8%) had never used any family planning in past due to lack of awareness about it or about its usage.

About 55 women (62.5%) had intra-caesarean insertion whereas only 33 (37.5%) had post-placental insertion. Ease of insertion was easy and perception of pain was not there in most of the women. Trained faculty is essential for a painless and easy insertion. Out of 88 women who accepted PPIUCD insertion only 73 (83%) followed up after 6 weeks either through call or visit. Rest 15 (5.7%) didn't follow over call or even visit. The follow-up through visit was low (30 women {41%}).

48 women (54.5%) did not have any complaints. Rate of abdominal pain and bleeding and rate of expulsion was more than the rest of the complaints (10 women {13.6%} out of 73 for each). Out of the 10 women who experienced expulsion, 3 (30%) women had string problems that the string was coming out through the vaginal canal longer than prior (expulsion of string). PPIUCD in such women was to be removed. Maximum expulsions were in the first week of pregnancy (6 women {60%}). Menstrual irregularities were less with PPIUCD. Only 2 women (4.1%) suffered from pelvic infection. There were no complications of rupture uterus or pregnancy. Out of these 25 women who suffered from the above complaints, only 14 (56%) women took some medical help. Patients were treated according to their complication. In case of expulsion, a proper size IUCD was reinserted if the women wished to continue with the same contraceptive method. Only 55 women (75.3%) were willing to continue with the PPIUCD. Rest of the women demanded removal; the main reason was due to complications (9 women {50%}).

Pain, abnormal bleeding and bleeding were principal factors for discontinuation. Family pressure or husband's opposition was another main reason which contributed for removal. 2 women (11.11%) demanded removal saying that husband has opposed, even though they did not have any complication or any other complaints. Other reasons were that they wanted to use other method or religious beliefs.

The present study is limited; it does not determine the long-term expulsion rates could not be determined since follow-up was only conducted after six weeks following birth. Further studies could have been conducted that involved one or two year follow-up assessments. Expansion of access to PPIUDs in India may provide an opportunity to address the high proportion of births with short intervals and improve maternal and child health outcomes.

More study is needed to assess the effects of PPIUD on continuation and birth spacing in the future.

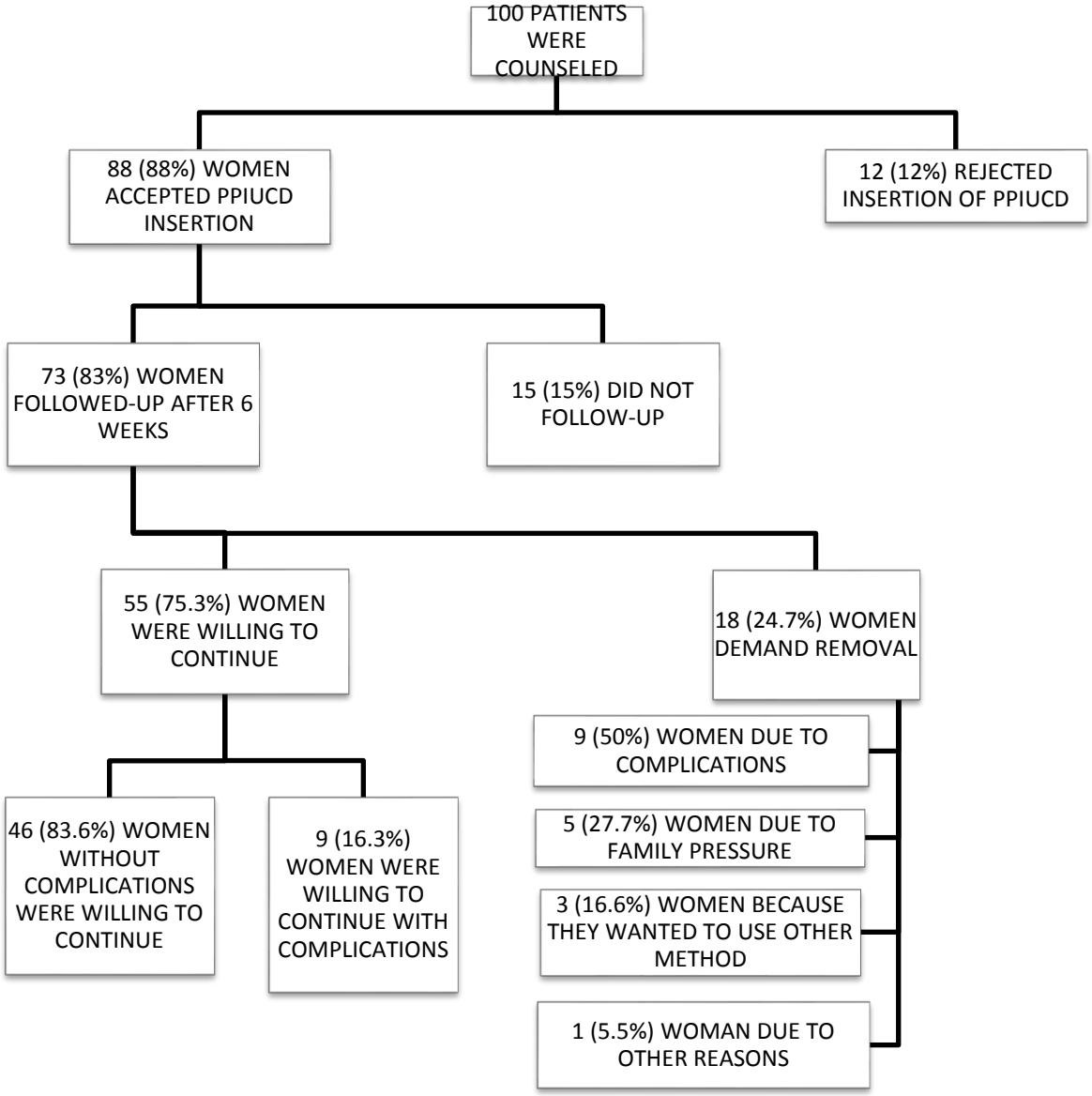

Chart 1:Summary of results

Conclusion

Women who receive PPIUCD show a high level of satisfaction with this choice of contraception, and the rates of expulsion are low enough so that the benefits of contraceptive protection outweigh the potential inconvenience of needing to return for care for that subset of women.We can find a bright future of PPIUCD as effective choice in Postpartum family planning (PPFP), by making it available at all health facilities up to PHC level with active participation of Private health care facilities, it will ignite a chain reaction at war footing level in a way such that all women who accept it shall motivate another neighbouring women to use PPIUCD without any second thought. Initially a reward as low as even Rs.30

may be awarded as an incentive to participants who use PPIUCD for 10 years efficacy, it shall go long way in population control and contribution in the growth of India.

Acknowledgement

1. Department of Obstetrics and Gynecology, Smt. Kashibai Navale Medical College
2. Indian Medical Counsel of India

Declarations

- Ethical approval: Approved by the ethics committee

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Source of Support: Nil
Conflict of Interest: None