



Critical Factors Influencing the Acceptability of Post-placental Insertion of Intrauterine Contraceptive Device: A Study in Six Public/Private Institutes in India

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Abstract

Objective To determine critical factors and barriers to postpartum intrauterine contraceptive device (PPIUCD) use in India in order to guide programs aimed at reducing maternal and child mortality.

Methods All pregnant women were enrolled for contraception counseling during their visit to the antenatal outpatient clinic. Women who opted for PPIUCDs were enrolled in the study and offered PPIUCD insertion, irrespective of mode of delivery. Those who withdrew consent when in labor or soon after delivery, experienced severe bleeding, or exhibited unstable vital signs were excluded, as were febrile women and those diagnosed with chorioamnionitis.

Results A total of 66,508 women were enrolled in the study. 86.1% indicated they discussed family planning options with their partners/husbands before making a decision. 178 respondents (0.3%) could not mention one advantage of PPIUCDs, while 23.1% could not mention one disadvantage. 13.9% of the women withdrew consent. Family member objections (43.44%), husband/partner objection (27.94%), and deciding on another method (15.59%) were the main reasons for consent withdrawal.

Conclusions Awareness of PPIUCDs is not a limiting factor in women's consent to PPIUCD insertion. As a woman's decision to use a PPIUCD is significantly influenced by family members and her partner/husband, awareness initiatives that target these populations should be considered.

Keywords PPIUCD · India · Postpartum · Maternal mortality · Birth spacing · Family

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Introduction

Unintended pregnancies are an important worldwide public health issue imposing socioeconomic burden on individuals and society [1–3]. In the postpartum period, unintended/mistimed pregnancies reduce the birth-to-pregnancy interval, negatively affecting maternal health and perinatal outcomes [3–9] in addition to increasing rates of infant and children morbidity and mortality [6–11]. It has been estimated that 61% of all births in India occur at intervals that are shorter than the recommended birth-to-pregnancy interval of 36 months [12, 13]. A study done in Tamil Nadu found that knowledge on birth spacing is high, yet observed birth interval is less [14].

Access to safe and effective contraceptive services in the postpartum period would enable women to space their births and prevent unintended pregnancies, thereby averting maternal and child mortality [13–18]. Factors contributing to a postpartum woman's vulnerability to pregnancy

include return of menses, less breastfeeding, return to sex, and the lack of contraception [19]. Long-acting, reversible family planning methods (LARC), such as intrauterine contraceptive devices (IUDs), have been reported to show high pregnancy prevention efficacy in the postpartum period [8, 13, 20], especially as unintended pregnancies are mainly attributed to incorrect or inconsistent use of contraception [8]. Improving access and uptake of LARC may represent a tool for reducing unintended pregnancy and associated healthcare expenditures [9, 16]. According to the finding presented in a study of 17 countries, 40% of women in their first year of postpartum period reported that they planned to use contraception method within 1 year after delivery but did not do so [19].

Postpartum intrauterine contraceptive devices (PPIUCDs) are IUDs that are inserted immediately following the delivery of the placenta or up to 48 h after birth. PPIUCD insertion does not interfere with breastfeeding, is non-hormonal, is associated with few side effects and non-compliance, and allows women to obtain safe, long-acting, cost-effective, and highly effective contraception that does not affect fertility [12, 13, 20].

PPIUCD family planning services have been available in India since 2008, when the Government of India launched a PPIUCD initiative aimed at reducing unwanted pregnancies in the postpartum period [13]. Owing to initiatives like Janani Suraksha Yojana [13, 21], which was launched in 2005 with the goal of increasing institutional delivery among low-income women in India, more women are electing to give birth in health facilities, where they have access to postpartum contraception counseling services [22]. Despite these initiatives and the benefits of PPIUCDs, IUDs/PPIUCDs are the elected contraception method of only 1.5% of women in India [22].

To address contraceptive needs of women during the postpartum period, as well as to better understand the accessibility and acceptance of PPIUCDs, and barriers to their greater uptake, the Federation of Obstetric and Gynaecological Societies of India (FOGSI) in association with Avni Health Foundation and the International Federation of Gynaecology and Obstetrics (FIGO) implemented a PPIUCD initiative in six medical centers in India. In this paper, the insights and lessons gleaned from this initiative, particularly in regard to barriers to PPIUCD adoption, are discussed, as a greater understanding of the decision-making process involved in contraceptive choice can guide program strategies and improve maternal health outcomes.

Methods

Design

This was a multicenter project conducted over a period of 24 months from March 2015 to March 2017. 66,508 patients attending six teaching hospitals were enrolled in this study. The centers included Jagadguru Sri Shivarathreshwara Medical College—Mysuru, Chittaranjan Seva Sadan and Sishu Sadan Hospital and Medical College—Kolkata, College of Medicine and Jawaharlal Nehru Medical Hospital—WBUHS, Kalyani, Nadia, Government Medical College—Surat, Topiwala National Medical College and Nair Hospital—Mumbai, and Nowrosjee Wadia Maternity Hospital—Mumbai.

Study Participants

All women presenting at the antenatal outpatient clinics of the teaching hospitals were counseled for post-placental insertion of the IUCD. Women and their families were counseled one-on-one and in group settings with visual aids and films where possible. The details of the study, including a description of PPIUCD, its effects, and possible side effects, were explained to each mother in English and the native language, and informed consent was documented on the outpatient documents and data forms. Women who withdrew consent when in labor or soon after delivery, experienced severe bleeding, or exhibited unstable vital signs were excluded, as were febrile women and those diagnosed with chorioamnionitis.

Questionnaires

Responses to questions regarding PPIUCDs, PPIUCD use, barriers to PPIUCD use, and complaints associated with PPIUCD use were obtained through in person dialogue during the first visit to the antenatal clinic, after delivery, and at the first postpartum checkup visit. The verbal responses were documented on the data sheets by nodal officers and counselors. These were then uploaded and sent to the central server in a coded manner.

PPIUCD Insertion

PPIUCD insertion was done under aseptic precautions within 10 min of delivery of the placenta or intra-Caesarian section or at 48 h after delivery. Kelly's forceps and Cu T 380 A were used. Insertion was done by doctors and staff nurses trained in the procedure. Threads were cut at the follow-up visit if required.

Table 1 Demographic variables of enrolled participants

Baseline characteristic	Participants (<i>n</i> = 56,245)	Participants (<i>n</i> = 66,424)
Age (year)	24.5 (± 4.295)	
Number of pregnancies		
One	33,222 (50%)	
Two	21,870 (32.9%)	
Three	8348 (12.6%)	
Four	2284 (3.4%)	
≥ Five	700 (1.1%)	

Table 2 Responses to the question “Did you discuss family planning options with your husband/partner before making your decision?”

Response	Respondents (<i>n</i> = 65,420)
Yes	56,320 (86.1%)
No	9100 (13.9%)

Statistics

All statistical analyses were done using IBM SPSS Statistics, version 22. For descriptive statistics, the number of patients, mean, standard deviation (SD), minimum, median, and maximum values were calculated for continuous variables.

Results

The total number of women who were enrolled in the study was 66,508, and their available demographic variables are shown in Table 1. It should be noted that age data were available for 56,245 women and data on the number of pregnancies were available for only 66,424 women.

As shown in Table 2, 56,320 respondents (86.1%) indicated that they discussed family planning options with their partners/husbands before making a decision. Only 13.9% (9100) of the respondents did not involve their partners/husbands in the family planning decision process. Furthermore, 178 respondents (0.3%) could not mention

one advantage of PPIUCDs, while 23.1% (15,354) of the respondents could not mention one disadvantage of PPIUCDs (Table 3).

Of the women enrolled in the study for whom data were available, 1.8% (1174) withdrew consent after consenting to PPIUCD insertion (Table 4). Of those who withdrew consent, the most frequent reasons were as follows: “family members’ objection” (43.44%), “Husband/partner objection” (27.94%), and “Decided on another method” (15.59%) (Table 4).

Of the 16,928 women who received PPIUCD insertion, 3911 (23.01%) returned for a postnatal checkup visit, while 3987 (23.55%) opted for a telephone interview. Of those who returned for a postnatal visit, 2760 (70.6%) did not have any complaints; 1151 (29.4%) reported complaints. The most frequent complaint was vaginal discharge (16%) (Table 5).

Prior to the postnatal checkup visit, 55 women requested PPIUCD removal. At the postnatal checkup visit, 21 women requested PPIUCD removal and PPIUCDs were removed from 12 women on medical grounds. The main reason for requesting PPIUCD removal was heavy menstrual bleeding (Table 6).

Discussion

We found that a majority of women discussed family planning options with their husbands/partners before making a decision. Moreover, awareness of the advantages and

Table 3 Awareness of the advantages and disadvantages of PPIUCDs

Response	Disadvantages (<i>n</i> = 66,508)	Disadvantages (<i>n</i> = 51,154)	Advantages (<i>n</i> = 66,508)	Advantages (<i>n</i> = 66,330)
Do not know	15,354 (23.1%)		178 (0.3%)	
Know at least one	51,154 (76.9%)		66,330 (99.7%)	
One		32,437 (48.8%)		19,608 (29.5%)
Two		15,363 (23.1%)		10,890 (16.4%)
Three		648 (1.0%)		10,478 (15.8%)
Four		2363 (3.6%)		7704 (11.6%)
Five		281 (0.4%)		8100 (12.2%)
≥ Six		62 (0.1%)		9550 (14.3%)

Table 4 Response to PPIUCD in the form of consent and reason for withdrawing consent

Response	Respondents (n = 66,508)	
Yes	1174 (1.8%)	
No	18,712 (28.1%)	
Unavailable [#]	46,622 (70.1%)	
What was the main reason for withdrawing consent?	Frequency	%
Concerned about failure rates	8	0.68
Decided on another method	183	15.59
Do not want to have a foreign body inside me	2	0.17
Family members objection	510	43.44
Heard a lot about side effects and is concerned	26	2.21
Husband/partner objection	328	27.94
No need because husband/partner is away	8	0.68
Not sure whether to have the IUD	76	6.47
Other	30	2.56
Religious objection	2	0.17
Want to have another baby soon	1	0.09
Total	1174	100.00

[#]Data of 70.1% (46,622) of the women enrolled in the study are not available

Table 5 Complaints associated with PPIUCD insertion

Complaints	Frequency	%
Vaginal discharge	624	16.00
Threads coming out of vagina	207	5.30
Abdominal pain	150	3.80
Irregular bleeding	89	2.30
Expelled IUCD	48	1.20
Other	33	0.80
Threads not felt	24	0.60
Coital discomfort and pain	6	0.20
Partner’s complaint about inconvenience of sex	2	0.10
Method failure	1	< 0.10
Post-coital bleeding	1	< 0.10
Patient needing antibiotics	1	< 0.10

[#]Data are only available for 1151 women

disadvantages of PPIUCD insertion was high. Although less than 5% of the women in this study withdrew their consent, the main reason for this withdrawal was family member and partner objection.

In India, government-sponsored family planning programs have been running since 1952 [15, 23], providing “basket of choices” in a “cafeteria approach” including 5 main methods—female sterilisation, male sterilisation, intrauterine contraceptive device (IUCD), oral contraceptives, and condoms [23, 24]. Moreover, they have been part of overall healthcare services since 1997 [23]. In this study, we found that more than 80% of the women could mention at least one advantage and disadvantage of PPIUCD insertion,

Table 6 Responses to “What was the main reason for requesting PPIUCD removal?”

What was the main reason for requesting PPIUCD removal	Frequency	%
Heavy menstrual bleeding	10	50
Painful sexual intercourse	3	15
Painful periods	2	10
Pain in between periods	2	10
Husband/partner objection	1	5
Wants to use another contraception method	1	5
Other	1	5
Total	20 [#]	100

[#]Data are only available for 20 of the women who requested PPIUCD removal

which was expected according to the NHFW survey; 79.6% of female respondents were aware of contraceptive methods, such as IUDs [22].

These statistics, and our findings, indicate that current programs have been effective in raising awareness of contraceptive options, including PPIUCDs. They also seem to suggest, however, that the low use of PPIUCDs among women, at least in this study, is due to factors other than lack of knowledge, which has been identified as a barrier to contraception use [14, 15, 26, 27].

It is well documented that family planning decisions are not made by the woman herself. The spouse plays an important role in contraceptive acceptance [13–15, 26]. Familial and social expectations influence the acceptance and use of contraceptives by women too. [13, 14, 26–28]. According to a study, most women consult multiple family members

including their partner, mother, mother-in-law, or sister while deciding on contraception [13]. A study drawing data from 51 surveys conducted in Asia, Africa, Latin America, and Caribbean has found that of 14.3% women who elected not to use a modern contraceptive method did so because of opposition from partner or other family member and further, 32.4% due to individual opposition in India. This study corroborates our findings, as the greatest percentage of women who withdrew consent did so owing to partner and family member opposition. Although our data show that the majority of women did not withdraw consent, it also highlights the need to increase awareness of PPIUCDs among family members of pregnant women. To increase uptake of PPIUCD, it will be necessary to involve and address the concerns of partners/husbands and family members of postpartum women during postpartum family planning counseling services [14, 24–28].

In 2013, the International Federation of Gynecology and Obstetrics (FIGO) piloted the PPIUCD initiative to address the unmet contraceptive needs of women during the postpartum period with the goal of reducing maternal and child mortality. Initially piloted in Sri Lanka, the project expanded to include five additional countries—Kenya, India, Tanzania, Nepal, and Bangladesh [29]. In India, this initiative was led by FOGSI with the goal of institutionalizing immediate postpartum IUCD services with the provision of PPIUCD services becoming part of routine practice. Since its launch in six centers across India in April and June 2015, PPIUCD use as well as the number of medical practitioners skilled in PPIUCD insertion has increased; however, as wide adoption of PPIUCDs is the key goal of the initiative, understanding barriers to the uptake of PPIUCDs, despite their availability, is imperative.

This study is not without limitations. We have not reported on the influence of education level, socioeconomic status, age, and number of children on PPIUCD uptake, yet these variables have been shown to be associated with the use of particular contraceptive methods in general [16]. Furthermore, the unavailability of large portions of data might have skewed the obtained findings. These limitations notwithstanding, this report can help guide future directions of the PPIUCD program in India.

Conclusions

Critical factor influencing the acceptability of post-placental insertion of intrauterine contraceptive device appears to be the involvement of family members. Access to postpartum family planning services and awareness of PPIUCDs among pregnant women in India are not limiting factors in women's consent to PPIUCD insertion. As a woman's decision to use

a PPIUCD is influenced by family members and her partner/husband, to increase uptake of PPIUCD among postpartum women in India, awareness programs that target partners/husbands and mothers-in-law should be implemented alongside postpartum family planning services.

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Author's Contribution HD and AB were responsible for hypothesis formulation, data analysis, and initial drafting of the manuscript. AB, TS, and PS contributed to the development, implementation, and management of the training program described. CNP contributed to the development, partnerships with the government, administrative support for program implementation, and reviewing the manuscript.

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Compliance with Ethical Standards

Ethical Approval PPIUCD program is implemented as per the approved guidelines "IUCD reference manual for medical officers and nursing personnel"—September 2013 issued by Government of India—Family Planning Division, Ministry of Health and Family Welfare (GOI).

Conflict of interest The authors declare that they have no conflict of interest.

Informed Consent Each and every subject was informed about the PPIUCD program, and consent was taken.

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