



Exploring Reason for Discontinuing Use of Postpartum Intrauterine Device in a Tertiary Care Centre at Jinnah Postgraduate Medical Center, Karachi.

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Abstract: Background: **Objective:** To determine the frequency and the reasons of discontinuation of postpartum intrauterine device (PPIUCD) in patients undergoing PPIUCD placement. **Study design:** Cross-Sectional Study. **Settings:** Jinnah post graduate medical Centre (JPMC), Saddar, Karachi. **Period:** From April 2025 – September 2025. **Material and Methods:** A six-month study was conducted at JPMC, Karachi, including 150 postpartum women who received a PPIUCD within 48 hours of delivery or during cesarean section, recruited via consecutive sampling. Follow-up at six months assessed continuation, discontinuation, and reasons for removal. Data were analyzed using SPSS 26, applying descriptive statistics and chi-square tests with $p < 0.05$ as significant. **Results:** Out of 150 women who got PPIUCD, the majority were multigravida with post placental insertions. The continuation rate was 78.7% continuation at six months and 21.3% at discontinuation and was primarily caused by abdominal pain, pregnancy (desire) and irregularities during menstruation. Stopping was also considerably linked with low education ($p=0.018$), post-insertion complications ($p=0.001$) and post-placental insertion ($p=0.040$). **Conclusion:** PPIUCD had high continuation. Preterm birth was associated with a low level of education, problems, and postpartum time. Better counseling, competence in insertion, and follow-up can help in minimizing removals and increase acceptance of contraceptives.

Keywords: Contraception, Family Planning Services, Intrauterine Devices, Postpartum Period.

INTRODUCTION

Postpartum family planning is essential in the process of enhancing the maternal and child health outcomes through preventing unwanted pregnancies as well as giving birth spacing. The contraceptive prevalence rate in Pakistan is still relatively low and great effort is needed to make people embrace the modern methods of contraception. The national strategies would increase the contraceptive prevalence rate to 50 percent by 2025 by increasing channels of service delivery and access to effective family planning methods. Nevertheless, the use and maintenance of the modern contraceptive options even after these initiatives is not optimal in most parts of the country. 1 In Pakistan, family planning programs have been changing with the years, but there are various social, cultural, and health system obstacles that are still hindering the steady utilization of contraception. The low level of awareness, wrong beliefs on birth control methods and insufficient access to good reproductive health services are all contributory factors to the low uptake and retention rates. These issues should be dealt with to help decrease the number of unintended pregnancies and increase reproductive health outcomes among Pakistani women. 2

Some of the best and sure ways of contraception include long-acting reversible contraceptives (LARCs) such as intrauterine contraceptive devices (IUCDs). These have long-term protection, high efficacy and quickest recovery to fertility on removal. Due to such benefits, IUCDs are extensively recommended as a valuable element of postpartum family planning interventions. 3 Introduction of postpartum intrauterine contraceptive device (PPIUCD) which is placed as soon as delivery is delivered or during cesarean section has become a new form of convenient and effective contraceptive use. Research undertaken in Pakistan has revealed that the

insertion of postpartum IUCD is in general acceptable by women and has shown good continuation rates with low complication rates where proper counseling and methods to insert such devices are used. 4 Although PPIUCD has its advantages, the acceptance levels of the procedure differ across women. The fear of side effects, absence of family support, and deficient counseling are some of the factors that can affect the decisions that women have towards using it. Surveys that have been carried out in tertiary care hospitals in Karachi have documented the different degrees of approval to postpartum IUCDs, hence, sociocultural and informational variables may play a significant role in shaping contraceptives among post-partum women. 5 Such interventions have also been practiced in clinical settings like trans-cesarean IUCD insertion to enhance the accessibility to postpartum contraception. Research has revealed that cesarean

delivery insertion is possible and safe and presents a chance of delivering effective contraception prior to the hospital discharge. But monitoring outcomes and experiences of patients should continue in order to have a sustained utilization. 6

Experience of PPIUCD by women is significant in either continuity or termination of the procedure. Discomfort, irregular bleeding, perceived complication or family influence might be some of the issues that influence satisfaction with the device. The nature of these experiences is critical in an attempt to overcome the obstacles and enhance counseling interventions on postpartum contraception. 7 The continuation rates and expulsion rates after immediate postpartum IUCD insertion have also been reported to have positive rates in international studies, and this has proven that it is an effective contraceptive method in postpartum in many healthcare facilities. The results support the possibility of PPIUCD as a viable alternative to unmet postnatal contraceptives. 8 Nevertheless, premature ending of PPIUCD is still a major issue. Past researches carried out in Pakistan indicate that one of the perceptions of a percentage of women who take the device is that they stop using it within the initial few months upon insertion due to pain, bleeding, pressure by family members or poor perception about the procedure. It is essential to find out these factors to enhance the continuation rates and the level of satisfaction with postpartum contraception. 9 The results underscore the essence of a holistic counseling and follow-up to improve continuation and effective use of contraception methods. 10

Hence, it is crucial to examine the causes of postpartum discontinuation of the postpartum intrauterine contraceptive devices to identify the obstacles encountered by the women, as well as to come up with specific interventions to enhance the continuation rates and effectiveness of the postpartum family planning services. The current study was undertaken in an effort to understand the causes of quitting the use of PPIUCD among women in a tertiary care center in Jinnah Postgraduate medical center, Karachi.

MATERIAL & METHODS

The cross-sectional research occurred in the department of obstetrics and gynecology, Jinnah post graduate medical Centre (JPMC), Saddar, Karachi. The period of the study was six months from April 2025 – September 2025, after the institutional review board of JPMC approved the research synopsis with approval no: NO.F.2-81/2025GENL/233/JPMC.

The sample size was estimated with the WHO sample

size calculator, in which the PPIUCD discontinuation frequency of 16.79% [8] with a margin of error of 6% and a confidence level of 95% was used. The required sample of the study was estimated at 150 subjects. The recruitment of subjects was done using a non-probability consecutive sampling method.

The inclusion criteria were women aged 18-35 years old with any gravida or parity with the insertion of intrauterine contraceptive device (PPIUCD) during either the cesarean section or within 48 hours of vaginal birth. The patients who had a history of IUCD insertion failure or who were suspected to have iatrogenic uterine perforation, those who had received a diagnosis of puerperal sepsis or postpartum hemorrhage, and those patients who had known malignancy of the genital tract were excluded.

Women who passed the criteria of inclusion were recruited under informed written consent, after receiving the institutional Ethical Review Committee and CPSP approval. Fine demographic and clinical data, such as age, residence, educational status, parity, gravida, and monthly family income was inputted on a structured proforma. Every participant was counseled standardly on the advantages, potential side effects and expected results of PPIUCD insertion.

This was done either intraoperatively during cesarean section or within 48 hours after childbirth in vaginal section.

They were followed up after six months of insertion. Follow-up information on PPIUCD continuity or discontinuation was acquired during the follow-up. Among women that stopped the procedure, reasons that included: women wanted to have a baby, family disapproval, menstrual problems, abdominal pain, or believed they had gained weight were recorded. The principal investigator would gather all the data and put them in secure storage with limited access to ensure confidentiality and reduce the extent of bias.

The input of data and its analysis were conducted with SPSS version 26.0. The test of normality of continuous variables was done using the ShapiroWilk test. Variables like age, parity, gravida and monthly family income were analyzed using descriptive statistics, which included mean, standard deviation, median and interquartile range as necessary. Frequencies and percentages were used to summarize categorical variables such as residential status, educational level, PPIUCD discontinuation and reasons of discontinuation.

RESULTS

A total of 150 women who underwent PPIUCD insertion were enrolled. Sociodemographic characteristics of the participants are summarized in Table 1. Most women belonged to the urban population and had secondary or intermediate education.

Table 1. Sociodemographic Characteristics of Participants (n = 150)

Variable	Category	N (%)
Age (years)	18–24	47 (31.3)
	25–30	68 (45.3)
	31–35	35 (23.3)
Residential Status	Urban	102 (68.0)
	Rural	48 (32.0)
Educational Status	No formal education	20 (13.3)
	Primary	32 (21.3)
	Secondary	54 (36.0)
	Intermediate	28 (18.7)
	Graduate+	16 (10.7)
Occupation	Housewife	110 (73.3)
	Employed	26 (17.3)
	Self-employed	8 (5.3)
	Other	6 (4.0)
Monthly Family Income (PKR)	<20,000	38 (25.3)
	20,000–50,000	81 (54.0)
	>50,000	31 (20.7)
Husband's Education	No education	18 (12.0)
	Primary	29 (19.3)
	Secondary	63 (42.0)
	Graduate+	40 (26.7)

Husband's Occupation	Laborer	52 (34.7)
	Service	58 (38.7)
	Business	32 (21.3)
	Other	8 (5.3)

Obstetric and clinical characteristics are shown in **Table 2**. Most women were multigravida and multiparous. The majority had undergone normal vaginal delivery, and post-placental insertion was the most common timing of PPIUCD placement.

Table 2. Obstetric and Clinical Characteristics of Participants (n = 150)

Variable	Category	N (%)
Gravida	G1	29 (19.3)
	G2–G3	87 (58.0)
	≥G4	34 (22.7)
Para	P0–P1	44 (29.3)
	P2–P3	82 (54.7)
	≥P4	24 (16.0)
Mode of Delivery	Normal Vaginal Delivery	96 (64.0)
	Cesarean Section	54 (36.0)
Timing of PPIUCD	Post-placental	88 (58.7)
	Intra-cesarean	45 (30.0)
	<48 hours postpartum	17 (11.3)
Complication after insertion	Yes	22 (14.7)
	No	128 (85.3)

The overall PPIUCD continuation and discontinuation status is presented in Table 3. Approximately one-fifth discontinued the device within six months. Most removals were performed at private clinics, and in many cases, the decision for removal was influenced by either the woman herself or her husband.

Table 3. PPIUCD Continuation and Discontinuation Patterns (n = 150)

Variable	Category	N (%)
Status of Use	Continued	118 (78.7)
	Discontinued	32 (21.3)
Place of Removal (n = 32)	JPMC	9 (28.1)
	Private Clinic	17 (53.1)
	Other	6 (18.8)
Advisor for Removal (n = 32)	Self	12 (37.5)
	Husband	8 (25.0)
	Family Member	6 (18.8)
	Healthcare Provider	6 (18.8)

Reasons for discontinuation and their association with sociodemographic and obstetric variables are shown in Table 4. Significant associations were observed between discontinuation and education level, occurrence of complications, and timing of insertion, whereas no significant association was found with income or residential status.

Table 4. Association of Discontinuation with Key Variables (n = 150)

Variable	Category	Continued n (%)	Discontinued n (%)	p-value
Educational Status	No/Primary	29 (63.0)	17 (37.0)	0.018
	Secondary+	89 (83.2)	15 (16.8)	

Complication after insertion	Yes	10 (45.5)	12 (54.5)	0.001
	No	108 (84.4)	20 (15.6)	
Timing of insertion	Post-placental	63 (71.6)	25 (28.4)	0.040
	Intra-cesarean / <48 hrs.	55 (86.0)	9 (14.0)	
Residential Status	Urban	82 (80.4)	20 (19.6)	0.523
	Rural	36 (75.0)	12 (25.0)	
Income	<50,000	89 (76.1)	28 (23.9)	0.271
	≥50,000	29 (85.3)	5 (14.7)	

DISCUSSION

The current paper assessed the persistence and the persistence of postpartum intrauterine contraceptive device (PPIUCD) in a tertiary care hospital in Karachi. Overall, 78.7% of women used the device, and 21.3% stopped within 6 months in this study. Corresponding results have also been demonstrated in local research studies where the majority of women persisted with long-acting reversible contraceptive methods with acceptable levels of safety on follow-up. 11 These results indicate that PPIUCD is a relatively acceptable contraceptive method used after giving birth. The present study had a significant relationship between discontinuation and educational status. The rate of discontinuation was higher in women who had no or primary education (37.0%), than in women who had secondary or higher education (16.8%), ($p = 0.018$). The same has been observed in earlier studies that have pointed out that misunderstandings, fear of side effects, and lack of knowledge regarding IUCDs are all major impediments to their sustained usage among the Pakistani women. 12 Thus, to enhance continuation rates, awareness and counseling can be deemed to better.

The postpartum insertion of IUCD is also endorsed through the international guidelines as a safe yet effective method of contraceptive. The FIGO position statement highlights that urgent postpartum IUCD insertion can be effective to satisfy unmet contraceptive demands especially in those areas where women might fail to come back to receive follow-up family planning care. 13 The continuation rate is high in this study and it is another evidence in favor of the PPIUCD programs implementation within the tertiary healthcare facilities. The current research did not show any other complications after insertion in

85.3% of women only. Nevertheless, discontinuation was greatly related to complications as 54.5% of women who got complications discontinued the device as opposed to 15.6% of those who did not get any complications ($p = 0.001$). Past research has also indicated that IUCD postpartum insertion is usually safe with minimal rates of complications when done in the correct technique. 14

Discontinuation was also significantly linked with timing of insertion. The discontinuation rate of post-placental insertion (28.4) was greater than that of intra-cesarean or early postpartum insertion (14.0) ($p = 0.040$). It has also been noted by other studies in the past that postpartum IUCD insertion is good though there may be different results based on the time and the mode of insertion. 15 The usage of PPIUCD in cesarean delivery has been reported to be positive since it gives instant birth control without need of a follow up operation. 16

The most frequent reasons of discontinuation in this study were menstrual irregularities, abdominal pains, and wish to conceive. The same reasons of IUCD withdrawal have been observed in past researches where side effects and family influence has played a role in withdrawal. 17-18 Even though majority of the respondents were urban dwellers (68.0%), discontinuation was not strongly related to residential status and income, indicating that education and counseling might be more involved in continuation of contraceptives. 19 Counseling and training of providers have been exposed to enhance acceptance and retention of postpartum IUCDs. 20

Limitations of the Study: The study was conducted in one tertiary care center with a relatively small

sample, which can be a limitation to generalization. These six months were also restricted as a follow-up period, and could not indicate long-term continuation patterns. Also, the cultural beliefs and the influence of partners are qualitative factors, which have not been discussed in depth. Larger sample size and increased follow-up should be carried out in future multicenter studies.

CONCLUSION

The current study reveals that though PPIUCD is a suitable method of postpartum contraceptive, its retention depends heavily on the level of education of the women concerned, the incidence of health complications associated with the insertion procedure, and the time of insertion of the PPIUCD. Even though the majority of women kept using the device, an almost fifth of them stopped its use within six months, mostly because of menstrual issues, pain in the abdomen, or the aspiration to conceive in the future. Meaningful influences on removal decisions were sociocultural factors such as husband or family pressure. Enhancement of counseling procedures, better follow-up and the solution of stereotypes can increase continuation rates in other similar tertiary care environments.

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