

EFFECT OF TIMING AND FREQUENCY OF COUNSELLING ON PPIUCD ACCEPTANCE

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ABSTRACT

Background: Aims and objectives: To assess the effect of timing (antenatal OPD visit, during admission & just prior to delivery) and frequency of counseling sessions on the acceptance of postpartum intrauterine contraceptive device (PPIUCD). **Material and methods:** A prospective cohort study was conducted in Department of Obstetrics and Gynaecology, Jawaharlal Nehru Medical College, Aligarh between August 2022 to July 2024. A total of 1500 antenatal women were counseled regarding postpartum intrauterine contraceptive device (PPIUCD) as a contraceptive method while attending the OPD, at the time of admission and just prior to delivery. Acceptability of postpartum intrauterine contraceptive device (PPIUCD) was evaluated. **Results:** Overall acceptance of PPIUCD was 43%. Acceptance was significantly higher among women who received three or more counseling sessions (77.3%) compared to those who received fewer sessions. Acceptance was highest among women counseled during the antenatal period (57.1%), followed by those counseled at admission (31.3%), and lowest when counseling was provided immediately prior to delivery (15.6%) ($P < 0.001$). **Conclusion:** PPIUCD is a highly effective, long-term contraceptive method, yet awareness and acceptance remain limited in India. Integrating counseling at all maternity care points and involving spouses can improve informed decision-making and raise acceptance rates.

INTRODUCTION

India has surpassed China as the world's most populous nation, with 1.428 billion people.^[1] Although the population growth rate decreased from 21.5% in the 2001 census to 17.64% in the 2011 census, highlighting the need for effective population control measures.^[2,3] Uttar Pradesh alone accounts for approximately 3% of the world's population.^[2] A significant factor driving population growth is the unmet need for family planning during the postpartum phase, which can reach up to 65%.^[4] Studies show that effective family planning interventions can reduce maternal deaths by 30% and childhood mortality by 10% when pregnancies are spaced at least two years apart.^[4] Among family planning options, Intrauterine Contraceptive Devices (IUCDs) are highly effective, long-acting, and reversible, ranking globally as the second most utilized method after female sterilization. Their cost-effectiveness is notable, as modern IUCDs are safe for prolonged use.^[5] Breastfeeding women can safely use the copper intrauterine contraceptive device (Cu IUCD), as it

does not affect lactation. The device can be inserted immediately after vaginal delivery, during a cesarean section, or within 48 hours postpartum, before discharge from the health facility.^[6]

Counseling is a critical component of the PPIUCD insertion process. It helps ensure that women are well informed, emotionally prepared, and able to make an informed decision about the procedure.^[6] Enhancing interpersonal communication during antenatal care (ANC) check-ups presents an effective strategy for promoting PPIUCD insertion among women. Research indicates that women who regularly access ANC services are more inclined to opt for PPIUCD. Despite extensive efforts, acceptance of IUCDs in developing nations remains low due to limited awareness, inadequate training of healthcare providers, and widespread misconceptions about the method. In India, underutilization is often linked to a lack of accurate and up-to-date information among both couples and health service providers. Advantages are frequently understated, while disadvantages are exaggerated, perpetuating myths within communities. Additionally, high discontinuation rates are primarily attributed to poor

counseling and insufficient follow-up care, highlighting the need for improved education and support.

More studies on the acceptability of postpartum intrauterine contraceptive devices (PPIUCD) are essential due to the influence of demographic and health factors, such as age, parity, education, and healthcare access, on acceptance and continuation rates. Research involving diverse populations can provide deeper insights into these variations.

MATERIALS AND METHODS

Location and Duration: The study was conducted in the Department of Obstetrics and Gynecology, Jawaharlal Nehru Medical College and Hospital (JNMCH), Aligarh, India, from August 2022 to July 2024.

Study Design: Prospective cohort study

Study Population: Pregnant women attending the antenatal OPD or admitted to the labor room complex at JNMCH, AMU, Aligarh.

Sample Size: This study is part of a larger study comparing manual versus forceps-assisted insertion of postpartum intrauterine contraceptive devices (PPIUCD) during cesarean sections. To ensure adequate enrollment, antenatal counseling was provided to women during their pregnancy. Given an approximate cesarean section rate of 46% at our hospital and accounting for potential loss to follow-up, a total of 1,500 antenatal women were counseled. This was done to successfully include 150 women who received PPIUCD insertion during lower segment cesarean section (LSCS).

Inclusion Criteria

- Pregnant women who received counseling for PPIUCD during antenatal clinic visits, labor room admission, or prior to delivery.
- Women willing to undergo PPIUCD insertion and attend follow-up visits.

Exclusion Criteria

- History of prior IUCD insertion
- Prolonged rupture of membranes (>18 hours)
- Chorioamnionitis
- Fever during labor and delivery
- Severe anemia (<7 gm%)
- Active sexually transmitted disease (STD) or lower genital tract infection
- Unresolved postpartum hemorrhage (PPH)
- Manual removal of placenta
- Distorted uterine cavity

Counseling Process

1. **Introduction and Information Sharing:** Women were provided with information on the mechanism, benefits, and advantages of PPIUCD as a postpartum contraceptive method.

2. **Eligibility Assessment:** Eligibility for PPIUCD insertion was evaluated based on medical history, current health, and contraindications.
3. **Facilitating Informed Decision-Making:** Women were encouraged to ask questions and discuss their suitability for PPIUCD, fostering an informed choice.
4. **Insertion Procedure Details:** The procedure and protocols followed during PPIUCD insertion were clearly explained.
5. **Post-Insertion Care:** Women were advised on follow-up visits at 6 weeks and 3–6 months postpartum to monitor outcomes and address any concerns.

Based on the timing of counseling done women were divided into 3 groups:

Group A: Women who were counseled during their antenatal clinic visits.

Group B: Women who were counseled during admission and early labor.

Group C: Women who were counseled just prior to delivery.

Based on the number of counseling sessions received, women were divided into 3 groups:

Group I: Women who received one counseling session

Group II: Women who received two counseling sessions

Group III: Women who received three or more counseling sessions

Statistical Analysis

The study data was analyzed using SPSS version 29. Descriptive statistics were used to calculate percentages for categorical variables, and Chi-square tests were applied to assess associations between categorical variables.

RESULTS

The study consisted of 1500 antenatal women who were counseled regarding PPIUCD as a contraceptive method while attending the OPD, at the time of admission and just prior to delivery.

Sociodemographic characteristics of the study population

PPIUCD acceptance varied significantly across age, education, socioeconomic status, and religion ($P < 0.001$). Women aged 25–29 years had the highest acceptance rate (53.3%), while those aged 18–24 years had the lowest (22.2%). Educational attainment positively influenced acceptance, with graduates showing the highest rate (80%). Socioeconomic status also played a role, with the lower middle class exhibiting the highest acceptance (56.8%). Hindu women had higher acceptance (53.7%) compared to Muslim (40.6%) and other religions (30.0%). [Table 1]

Table 1: Sociodemographic characteristics of study participants and their association with PPIUCD acceptance (n = 1500)

Variable	Category	Accepted n (%)	Refused n (%)	Total n (%)
Age (years)	18-24	83 (22.2)	291 (77.8)	374 (100.0)
	25-29	381 (53.3)	334 (46.7)	715 (100.0)
	≥30	181 (44.0)	230 (56.0)	411 (100.0)
Education	Illiterate	93 (25.8)	267 (74.2)	360 (100.0)
	Primary	280 (45.5)	335 (54.5)	615 (100.0)
	High school	100 (50.0)	100 (50.0)	200 (100.0)
	Intermediate	88 (40.0)	132 (60.0)	220 (100.0)
	Graduate	84 (80.0)	21 (20.0)	105 (100.0)
Socioeconomic status	Upper	64 (53.3)	56 (46.7)	120 (100.0)
	Upper middle	51 (25.5)	149 (74.5)	200 (100.0)
	Lower middle	150 (56.8)	114 (43.2)	264 (100.0)
	Upper lower	200 (41.5)	282 (58.5)	482 (100.0)
	Lower	180 (41.5)	254 (58.5)	434 (100.0)
Religion	Hindu	166 (53.7)	143 (46.3)	309 (100.0)
	Muslim	467 (40.6)	684 (59.4)	1151 (100.0)
	Others	12 (30.0)	28 (70.0)	40 (100.0)
Total		645 (43.0)	855 (57.0)	1500 (100.0)

All values are expressed as number (percentage). PPIUCD: Postpartum intrauterine contraceptive device. All variables showed statistically significant associated with PPIUCD acceptance ($P < 0.001$, Chi-square test).

Parity-wise distribution of cases

PPIUCD acceptance was significantly higher among women with increasing parity. While only 29.4% of primigravida accepted, acceptance rose to 57.8% in

women with parity ≥ 2 . This association between parity and acceptance was statistically significant (Chi-square=96.88, df=2, $P < 0.001$). [Table 2]

Table 2: Association between parity and PPIUCD acceptance (n = 1500)

Parity (number of previous births)	Accepted n (%)	Refused n (%)	Total n (%)
1	84 (29.4)	202 (70.6)	286 (100.0)
2	200 (34.0)	389 (66.0)	589 (100.0)
≥3	361 (57.8)	264 (42.2)	625 (100.0)
Total	645 (43.0)	855 (57.0)	1500 (100.0)

Chi-square = 96.88, df = 2, $P < 0.001$.

Acceptability of PPIUCD in women according to the timing of counselling

The timing of counseling significantly influenced PPIUCD acceptability. The highest acceptance rate (57.1%) and lowest refusal rate (42.9%) were observed when counseling was provided during the

antenatal period. Counseling at the time of admission resulted in moderate acceptance (31.3%) and a higher refusal rate (68.7%). Notably, counseling conducted solely before delivery was associated with the highest refusal rate (84.4%). These differences were statistically significant ($P < 0.001$). [Table 3]

Table 3: Association between timing of counseling and PPIUCD acceptance (n = 1500)

Timing of counseling	Accepted n (%)	Refused n (%)	Total n (%)
Antenatal	483 (57.1)	363 (42.9)	846 (100.0)
Admission/early labor	120 (31.3)	264 (68.7)	384 (100.0)
Immediately prior to delivery	42 (15.6)	228 (84.4)	270 (100.0)
Total	645 (43.0)	855 (57.0)	1500 (100.0)

Chi-square = 173.6, df = 2, $P < 0.001$.

Acceptability of PPIUCD according to the number of counseling sessions

The number of counseling sessions strongly influenced PPIUCD acceptability. Acceptance rates

increased with more sessions, from 17.5% with one session to 39.2% with two and 77.3% with three. This trend was statistically significant (Chi-square: 310.451, df: 2, $P < 0.001$). [Table 4]

Table 4: Acceptability of PPIUCD According to Number of Counseling Sessions

Number of Counseling Sessions	Acceptance n (%)	Refusal n (%)	Total n (%)
1	76 (17.5)	359 (82.5)	435 (100.0)
2	262 (39.2)	406 (60.8)	668 (100.0)
3	307 (77.3)	90 (22.7)	397 (100.0)

Chi-square = 310.451, df = 2, $p < 0.001$

Reasons for acceptability of PPIUCD

Among 645 acceptors, the primary reasons for choosing PPIUCD were its long-term effectiveness (32.2%) and trust in doctors (21.7%). Other factors

included fewer side effects (14.6%), family completion (11.2%), reversibility (10.2%), and effective pregnancy spacing (10.1%). [Table 5]

Table 5: Reasons for acceptance of PPIUCD (n = 645)

Reason	n (%)
Long-term effectiveness	208 (32.2)
Trust in healthcare provider	140 (21.7)
Fewer side effects	94 (14.6)
Completion of Family	72 (11.2)
Reversibility	66 (10.2)
Birth spacing	65 (10.1)

Reasons for refusal of PPIUCD

Among 855 individuals who refused PPIUCD, the primary reasons were fear of complications (31.6%) and a preference for other contraceptive methods

(24.8%). Family or husband's opposition (21.5%), lack of awareness about small family norms (15.7%), and religious beliefs (6.4%) were also contributing factors. [Table 6]

Table 6: Reasons for refusal of PPIUCD (n = 855)

Reason	n (%)
Fear of complications	270 (31.6)
Preference for other methods	212 (24.8)
Family opposition	184 (21.5)
Lack of awareness	134 (15.7)
Religious beliefs	55 (6.4)

DISCUSSION

Following counseling, 43% of women accepted PPIUCD insertion, while 57% declined. This is comparable to previous studies,^[7,8] although variation in acceptance rates has been reported across different settings.^[9,10] Such differences may be attributed to variations in study population, healthcare systems, and sociodemographic characteristics.

The present study demonstrated that sociodemographic variables, including age, education, and parity, were significantly associated with PPIUCD acceptance. Higher acceptance among educated and multiparous women suggests that awareness, prior reproductive experience, and informed decision-making play important roles in contraceptive uptake.^[9,14]

Timing of counseling was an important determinant of acceptance. Women who received antenatal counseling had higher acceptance compared to those counseled during admission or immediately prior to delivery. Comparable findings have been reported in previous studies.^[11] This may be explained by the additional time available during the antenatal period for discussion and decision-making. However, some studies have reported differing trends,^[10] indicating that acceptance may also be influenced by sociocultural factors and prevailing misconceptions. This highlights the potential importance of continuous and reinforced counseling.

The number of counseling sessions showed a strong positive association with acceptance. Women who received multiple counseling sessions demonstrated higher acceptance compared to those counseled fewer times. Repeated counseling may improve understanding, address misconceptions, and build

confidence in the method. Limited evidence is available on the effect of counseling frequency, highlighting the relevance of this finding.

The most common reasons for acceptance were the long-acting nature of PPIUCD, trust in healthcare providers, and perception of fewer side effects. Similar observations have been reported in earlier studies,^[12,13] where effectiveness and reversibility were key factors influencing acceptance.

The major reasons for refusal included fear of complications, preference for alternative contraceptive methods, and family opposition. These barriers have been consistently reported in previous studies,^[9,15,16] and reflect gaps in awareness as well as sociocultural influences on contraceptive decision-making.

CONCLUSION

PPIUCD is a highly effective, long-term contraceptive option for spacing pregnancies and limiting family size, but awareness among women remains low. Integrating PPIUCD counseling services at every delivery point could significantly improve awareness and address the unmet need for contraception in India. Currently, acceptance rates show room for improvement, as less than half of women are opting for PPIUCD. Research on optimal antenatal counseling timing is essential to better influence decisions. Family physicians play a pivotal role in educating women and their families, overcoming stigma, and may increase acceptance rates beyond 50%. Additionally, the absence of male partners during antenatal visits highlights the importance of involving spouses in counseling to foster informed decision-making.

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