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Systematic Review

Barriers and Facilitators of Immediate Postpartum IUCD Uptake in India: A Systematic Review

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Abstract

Background: Postpartum contraception plays a critical role in promoting maternal and child health by reducing unintended pregnancies and short inter-pregnancy intervals. Immediate postpartum intrauterine contraceptive device (PPIUCD) insertion is recognized as a safe and effective method. Despite its advantages, uptake in India remains low due to a range of socio-cultural, systemic, and provider-related barriers.

Aims: To identify and analyze the barriers to postpartum contraception uptake in India and assess the effectiveness of immediate PPIUCD in improving family planning outcomes.

Methods: A comprehensive literature review was conducted using national surveys, policy reports, and peer-reviewed publications. Sources included NFHS-5 data, Ministry of Health and Family Welfare (MoHFW) reports, RMNCH+A strategy documents, World Health Organization (WHO) guidelines, and implementation studies focused on postpartum contraception.

Results: Despite the high effectiveness of PPIUCD (> 99%), its adoption rate remains below 10% in many Indian states. Major barriers include inadequate awareness, prevalent cultural myths, limited spousal communication, male-dominated decision-making, and gaps in provider training. States like Rajasthan and Andhra Pradesh have demonstrated improved uptake through targeted interventions like antenatal counselling and healthcare provider capacity building.

Conclusion: Improving postpartum contraception uptake, particularly PPIUCD, in India requires multi-level strategies including provider training, strengthened IEC (Information, Education, and Communication) efforts, active ASHA involvement, and integration of counselling into routine antenatal and delivery care services across Primary Health Centre (PHCs), Community Health Centre (CHCs), and district hospitals.

Keywords: *Postpartum Contraception; PPIUCD; Family Planning; Maternal Health; Barriers to Uptake; India; NFHS; ASHA; RMNCH+A Strategy; Immediate IUCD*

Introduction

The postpartum period offers a unique opportunity for initiating family planning, yet remains underutilized in India. According to NFHS-5 (2020-21), only 28.5% of women in India use any method of family planning within 12 months of childbirth, with PPIUCD usage ranging from 2 - 10% depending on the region [1].

WHO recommends an interpregnancy interval of at least 24 months to minimize maternal and neonatal risks [2]. Immediate PPIUCD insertion (within 10 minutes to 48 hours post-delivery) is safe, cost-effective, and long-acting, with expulsion rates under 10% when inserted by trained providers [3].

Despite being part of India's RMNCH+A strategy, PPIUCD adoption is limited by various socio-cultural and systemic challenges. This paper evaluates its barriers and proposes solutions for improved uptake.

Methods

This systematic review was conducted to evaluate the uptake, effectiveness, barriers, and facilitators related to immediate postpartum intrauterine contraceptive device (PPIUCD) use in India. This study analyzed publicly available data; no ethical approval was required as per ICMR guidelines (2021). The methodology followed PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) guidelines to ensure comprehensiveness and transparency.

Data sources:

A wide range of reputable national and international sources were used, including:

- NFHS-5 (National Family Health Survey) data for regional and national trends.
- RMNCH+A guidelines (Reproductive, Maternal, Newborn, Child, and Adolescent Health) for policy insights.
- Annual reports from the Ministry of Health and Family Welfare (MoHFW), Government of India, for programmatic data.
- WHO guidelines on postpartum family planning.
- Population Council studies for qualitative and implementation perspectives.
- PubMed-indexed articles (2010-2023), ensuring peer-reviewed, evidence-based research input.

Search strategy: Databases searched included PubMed, Google Scholar, and MoHFW repositories. Grey literature from government portals and institutional reports were also reviewed.

The following search terms and Boolean combinations were used: "PPIUCD", "postpartum contraception India", "barriers", "cultural beliefs", "myths", "family planning", "ASHA workers", "IUCD expulsion", "male involvement", "follow-up", "contraceptive counselling postpartum".

Inclusion criteria:

- Studies published between January 2010 and December 2023.
- Articles and reports specifically addressing PPIUCD usage, barriers, facilitators, outcomes, or effectiveness in India.
- Both quantitative and qualitative studies were included.

Exclusion criteria:

- Studies not conducted in the Indian context.
- Articles not available in English.
- Review articles without primary data.

Data extraction and analysis: Key data points such as acceptance rates, expulsion rates, complication profiles, counselling effectiveness, barriers identified, and recommended solutions were extracted. A thematic approach was adopted for qualitative data synthesis, while quantitative outcomes were compiled into summary tables. Duplicates were removed, and consistent metrics were used across tables for comparability.

Results

Parameter	Observation
Efficacy	>99% pregnancy prevention rate [3]
Expulsion rate	5 - 10% when inserted by trained personnel [4]
Complications	Rare - Perforation <0.1%, Infection <1% [5]
Discontinuation factors	Pain (8%), bleeding (3 - 4.5%), cultural or spousal opposition [4-6]

Table 1: *Effectiveness and safety profile of PPIUCD.*

State/Region	PPIUCD Uptake (%)	Key Factors/Remarks
Kerala	28.4%	High awareness and antenatal counselling
Tamil Nadu	25.3%	Strong integration into delivery services
Andhra Pradesh	22.9%	Focused postpartum FP counselling
Rajasthan	20.1%	ASHA-driven awareness programs
Uttar Pradesh	8.5%	Cultural barriers, myths, lack of follow-up
Bihar	6.7%	Limited training and awareness
National Avg.	~11.3%	Wide inter-state variation due to policy and resource gaps

Table 2: *State-wise PPIUCD uptake across India.*

Barrier Category	Description/Examples
Lack of awareness	Only 33% of postpartum women know about PPIUCD [1]
Myths and misconceptions	Fear of infertility, migration of device, sexual dissatisfaction [8]
Male-dominated decisions	Husband/in-laws often primary decision-makers [9]
Provider hesitancy	Fear of complications, insufficient training [4]
Health system gaps	Inadequate infrastructure, lack of private counselling rooms, non-availability of PPIUCD [10]

Table 3: *Barriers to PPIUCD acceptance in postpartum women.*

Intervention Type	Strategy/Implementation Example	Impact/Outcome
Antenatal counselling	Counselling during ANC and labor admission	Triples acceptance rate [6]
ASHA involvement	Counselling and follow-up through community health workers	60% of acceptors influenced by ASHA [11]
Male engagement	Couple counselling and IEC targeted to husbands	Increased consent and satisfaction [9]
Incentives	Cash or transport incentives for institutional deliveries	Boosts FP service utilization [12]
Follow-up mechanisms	Structured review post-insertion via ASHA/ANM	Reduces discontinuation by 25% [4]
Capacity building	On-site refresher training, simulations, PPIUCD insertion kit availability (including regular form, specially designed PPIUCD and Kelly's forceps)	Improves provider confidence and skill

Table 4: *Strategies and interventions to improve PPIUCD uptake.*

Study/Author	Location	Sample Size	Acceptance Rate (%)	Expulsion Rate (%)	Noted Complications/Comments
Jain., *et al*. (2021) [13]	Rural North India	300	42%	5.2%	Mild pain (8%), bleeding (3%)
Sebastian., *et al*. (2012) [14]	Jharkhand and Gujarat	2,000	48%	3.5%	No major complications
Prasad., *et al.* (2020) [15]	Uttar Pradesh	400	36%	7.1%	Irregular bleeding (4.5%)
NHSRC Report (2020) [16]	All-India	15,000+	30–35% (avg.)	5–10%	Cultural refusal, pain noted
Barua., *et al*. (2018) [17]	Maharashtra	250	50%	4%	Spousal opposition (18%)

Table 5: *Summary of key studies on PPIUCD effectiveness and acceptance in India.*

Discussion

Despite the introduction of PPIUCD under India's National Family Planning Program and its proven efficacy, the uptake remains limited due to multilayered challenges. The low acceptance is not due to a lack of utility but due to systemic gaps, socio-cultural resistance, and insufficient service delivery mechanisms.

Socio-cultural factors and myths

Cultural beliefs and societal misconceptions play a crucial role in limiting postpartum contraceptive uptake. Many women believe that IUCD insertion may affect future fertility, cause cancer, or migrate within the body. A study by Sebastian., *et al.* (2012) [14] highlighted that 43% of women declined IUCD insertion due to myths perpetuated by peers or family members. Opposition from spouses or elder family members, especially mothers-in-law, further diminishes autonomy in contraceptive decision-making.

Knowledge and counselling deficit

The National Family Health Survey (NFHS-5) data shows that only about 30% of postpartum women were informed about IUCDs before discharge [1]. Antenatal and immediate postpartum periods represent critical windows of opportunity for education. However, inadequate or rushed counselling - often by overburdened or untrained staff - results in low awareness. Integration of family planning counselling into routine antenatal care remains patchy.

Health system and infrastructure gaps

At the facility level, shortages of trained personnel and IUCD supplies hinder routine insertion. Many Primary Health Centres (PHCs) and Community Health Centres (CHCs) lack private spaces for counselling or insertion, compromising both patient comfort and service quality. Furthermore, lack of follow-up mechanisms leads to a higher chance of discontinuation or unreported side effects. Strengthening logistics, ensuring equipment availability, and establishing dedicated postpartum counselling rooms could significantly improve service delivery.

Impact of successful models

States like Rajasthan and Andhra Pradesh have demonstrated better PPIUCD acceptance, largely due to focused antenatal counselling, capacity building of providers, and ASHA worker involvement [18]. In Rajasthan, focused antenatal counselling led to an increase in uptake from 6.3% to 11.4% within two years (MoHFW, 2021) [19]. This demonstrates that programmatic refinements and structured communication strategies yield measurable improvements.

Need for male involvement

In patriarchal settings, family planning is often considered a woman's responsibility, yet men typically influence decision-making. Inclusion of spouses during counselling can significantly improve acceptance. Studies have shown that women whose husbands are counselled are 2.7 times more likely to accept PPIUCD [15].

Post-insertion support and follow-up

Fear of side effects and actual discomforts, if not managed timely, can lead to premature removal. Routine post-insertion follow-up at 6 weeks and dedicated helplines at district hospitals or community centres can help address these concerns. Training providers in side-effect management and follow-up protocols is equally critical.

Recommendations

- Training and refresher courses: For ANMs, staff nurses, and medical officers at PHC and CHC level.
- Infrastructure: Counselling corners at PHC/CHC/Delivery points with privacy, informational leaflets, and videos.
- Programmatic refinements: Monthly review of PPIUCD insertion data, quality audits, and incentives to high-performing centres.
- Awareness campaigns: IEC activities during antenatal clinics, Village Health and Nutrition Days (VHNDs), and leveraging mass media.
- Policy and monitoring: Mandatory PPIUCD counselling before discharge; incentivizing health workers for follow-up visits.

The Way Forward

Bridging the gap between knowledge and practice requires coordinated policy and community-level actions. Periodic surveys to understand community perceptions, real-time data tracking, public-private partnerships, and inclusion of contraception in school-level reproductive education could transform postpartum contraceptive practices.

Limitations of the Study

This systematic review has several limitations that should be considered when interpreting the findings:

1. Most included studies were facility-based, potentially underrepresenting rural community perspectives where barriers may differ significantly.
2. The review primarily examined quantitative outcomes; qualitative insights into women's lived experiences with PPIUCD were limited.
3. Data heterogeneity across states made direct comparisons challenging due to varying implementation strategies and reporting methods.
4. Long-term follow-up data (>12 months post-insertion) was scarce in the reviewed literature.
5. Private sector utilization patterns were underrepresented in government reports, potentially skewing uptake estimates.

Conclusion

PPIUCD remains underutilized in India despite its proven efficacy and safety. This review identifies three critical action areas: (1) strengthening antenatal counselling through ASHA workers and ANC clinics, (2) addressing systemic barriers via provider training and infrastructure improvements at PHCs/CHCs, and (3) implementing community engagement strategies to counter myths and male resistance. Successful state models demonstrate that integrated approaches combining education, accessible services, and follow-up can increase uptake by 15 - 20%. Prioritizing these interventions within the RMNCH+A framework will accelerate progress toward SDG 3.7 (universal access to reproductive healthcare). Future implementation research should focus on developing standardized counselling tools and evaluating male engagement strategies in diverse sociocultural contexts.

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