

Research Article

Contraceptive Choices among Postnatal Mothers Admitted To the Obstetrics and Gynaecology Department of Medical College & Hospital, Kolkata: A Cross-Sectional Study

Shyamali Dutta^{1*}, Sayantan Bhunia², Dyutipravo Bhowmik³, Tarun Kumar Sarkar⁴, Dr. Arup Chakraborty⁵

¹Associate Professor, Department of Obstetrics & Gynaecology, Medical College, Kolkata, West Bengal, India.

²MBBS 3rd Prof: II student, Medical College, Kolkata, West Bengal, India.

³MBBS 3rd Prof: II student, Medical College, Kolkata, West Bengal, India.

⁴Incharge, PP unit, Medical College, Kolkata, West Bengal, India Tarun Kumar Sarkar.

⁵Professor, Dept. Of Community Medicine, Medical College, Kolkata, West Bengal, India.

Address of the Institution

Medical College, Kolkata, 88, College Street, West Bengal, India; Pin – 700073

Corresponding Author: Address: Akshara Lotus Garden, Block 3 Flat 1A, F/F2 Hatiara Road, Pin No. 700159, Kolkata, West Bengal, India.

Email: drsdutta23@gmail.com

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ABSTRACT

Introduction: The postpartum period offers a key opportunity for initiating contraception to improve maternal and child health. However, actual contraceptive uptake in urban hospital settings remains inconsistent.

Materials and methods: A cross-sectional study was conducted from September 2024 to December 2025 among 397 postnatal mothers at Medical College & Hospital, Kolkata. Data were collected via semi-structured interviews and analysed using appropriate statistical methods.

Results: Although awareness of contraception was high, actual usage was moderate, with tubal sterilisation being the most used method. Future preference towards intrauterine devices was noted. Counselling from healthcare providers showed a significant association with both contraceptive use and method of choice ($p < 0.05$). Key barriers to usage included fear of side effects, lack of information, and cultural factors.

Conclusion: Strengthening postnatal contraceptive counselling and improving access to diverse methods are essential for enhancing contraceptive uptake among postnatal women in urban tertiary care settings.

Keywords: Contraception, Postpartum Period, Intrauterine Devices, Tubal Sterilization, Cross-Sectional Study, Urban Population, India.

INTRODUCTION

The postnatal period represents a crucial phase in a woman's reproductive life. It offers a unique opportunity for healthcare professionals to engage in meaningful conversations around contraception, enabling women to make informed choices regarding birth spacing and family planning (1). Contraceptive use in this period not only improves maternal and child health outcomes but also empowers women with autonomy over their reproductive lives (2). However, despite the availability of a wide range of contraceptive options, the actual uptake and preference patterns remain inadequately understood, particularly among postnatal

mothers admitted in urban hospital settings (3).

In urban regions such as Kolkata, where healthcare services and information access are relatively better, it is expected that contraceptive awareness and usage would be high. However, several factors—such as educational level, socio-economic status, cultural beliefs, mode of delivery, and counselling quality—continue to influence decision-making among postnatal women (4). Postnatal hospitalisation provides a valuable yet underutilised window for initiating family planning services (5). It is, therefore, essential to explore not just the level of awareness and

usage but also the underlying motivations, barriers, and sources of information that guide contraceptive choices among these women (6).

In India, approximately 59% of women adopt a contraceptive method within the first 12 months postpartum, with female sterilisation, condoms, and oral pills being the most common choices (7). However, long-acting reversible contraceptives such as intrauterine devices and injectables remain underutilised, despite their documented effectiveness and safety (8). Data from NFHS-5 (2019–21) further supports this trend and highlights that urban women generally show higher uptake compared to rural counterparts, largely due to improved access to health services and counselling (7,9).

In West Bengal, contraceptive awareness is relatively high, supported by increasing rates of institutional deliveries and antenatal care. Yet actual adoption—especially of reversible methods like PPIUCD and injectable contraceptives—remains lower than expected. Key contributing factors include socio-cultural beliefs, inconsistent counselling practices, healthcare provider biases, and patient educational level (4). Several studies have demonstrated that hospital-based counselling significantly influences uptake, but these

services remain underutilized in many tertiary healthcare settings (5).

Rationale/justification - Limited studies have comprehensively explored contraceptive choices among postnatal mothers in tertiary care urban hospitals in India. This study aims to fill this critical gap by capturing real-time insights through a structured, cross-sectional approach. The findings are expected to inform healthcare providers and policymakers, enhance patient-centred counselling, and guide the development of targeted interventions. Ultimately, the study seeks to improve maternal health outcomes and contribute to more effective, culturally sensitive, and accessible family planning services for postnatal women in Kolkata and similar urban settings.

Objectives - The primary objective of this study was to determine the awareness, preferences, and current usage of contraceptive methods among postnatal mothers admitted to the Department of Obstetrics and Gynaecology, Medical College & Hospital, Kolkata. Secondary objectives were to examine demographic and socio-economic influences, to evaluate the role of healthcare counselling, to identify cultural and familial impacts, to assess satisfaction levels, and explore future contraceptive intentions.

MATERIALS AND METHODS

This was an observational descriptive study with a cross-sectional design, conducted from September 2024 to December 2024 in the Department of Obstetrics and Gynaecology, Medical College, Kolkata after getting approval from institutional ethics Committee (Ref No. MC/KOL/IEC/NON-Spon/2620/09/2024 dated 03.09.2024). Study population was inpatient postnatal mothers. Mothers aged 19 years and above with written informed consent are included in this study. Mothers with severe post-delivery complications who were unable to communicate were excluded.

Participants were selected using systematic random sampling. The sample size was calculated using Cochran's formula (10).

$$n = Z^2 \times p \times q / d^2,$$

where $Z = 1.96$ (95% confidence level),

$$p = 0.5^{[4]}$$

$$q = 1 - p = 0.5, \text{ and}$$

$$d = 0.05 \text{ (margin of error).}$$

Thus, $n = (1.96^2 \times 0.5 \times 0.5) / (0.05)^2 = 384.16$, rounded up to 397 to ensure robust representation.

Data was collected using a pre-designed, pre-tested, semi-structured questionnaire through face-to-face interviews. Information collected included socio-demographic details, mode of delivery, awareness and use of contraceptives, reasons for non-use, satisfaction with counselling, current usage, and future preferences. Interviews were conducted in the participants' mother tongue, with responses recorded directly by the investigator. Open-ended answers were noted verbatim to retain detail. Data was entered into MS Excel (for pie charts, tables, and bar diagrams) and analysed using appropriate statistical methods with help of SPSS software. Informed consent was taken from all participants before data collection.

RESULT

A total of 397 postnatal mothers participated in the study. Majority of the participants (52.64%) were in the 21–30 years age group, followed by 31–40 years (40.3%). Only 3.79% were aged 19–20 years, and 3.27% were between 41–50 years. Urban residents constituted 52.7%, while 47.3% were from rural areas. 75.31% of the mothers had two or

fewer living children, while 24.69% had more than two. Regarding education, only 2.3% were graduates, 38% had completed secondary education, 29.7% had primary education, 18.1% higher secondary, and

11.8% had no formal education. Regarding economic status, 60.71% of mothers reported a monthly household income of ₹20,000 or less, while 39.29% earned more than ₹20,000. (Table 1)

Table 1: Sociodemographic Profile (N=397)

Sociodemographic Points		Frequency	Percentage (%)
Age	<=20	15	3.79
	21-30	209	52.64
	31-40	160	40.3
	41-50	13	3.27
Residence	Rural	188	47.3
	Urban	209	52.7
Living issue(s)	<=2	299	75.31
	>2	98	24.69
Formal Education	No	47	11.8
	Primary	118	29.7
	Secondary	151	38
	Higher sec.	72	18.1
	Graduate	9	2.3
Monthly income	≤20000/-	241	60.71
	>20000/-	156	39.29

Current usage trends revealed that tubectomy was the most adopted method among users. (Figure 1) This suggests that permanent

methods are popular among mothers who have completed their families. Though 41.31% was not using any contraceptive methods.

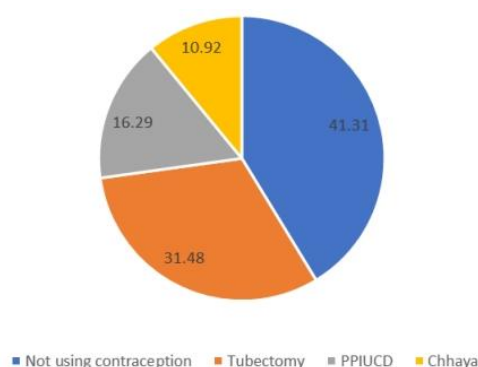


Figure 1: Pie chart showing distribution of immediate postpartum mothers based upon their choice of type of contraception in current use

Most users were content with the method they were currently using (Figure 2) indicating

good acceptability and tolerability of available contraceptive options

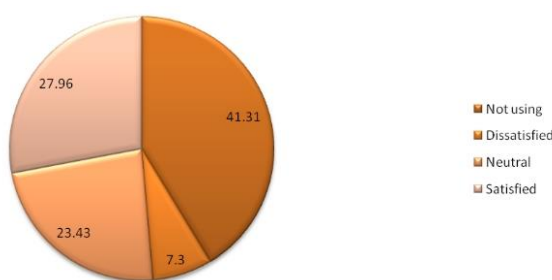


Figure 2: Pie chart showing the distribution of postpartum mothers according to their satisfactory level with using the current contraceptive method

The reasons for reluctance to use contraception were multifactorial. As shown in the bar diagram (Figure 3), key reasons included fear of side effects, insufficient

information, religious or cultural constraints, and partner or family disapproval. These findings highlight the importance of targeted education and community sensitization efforts.

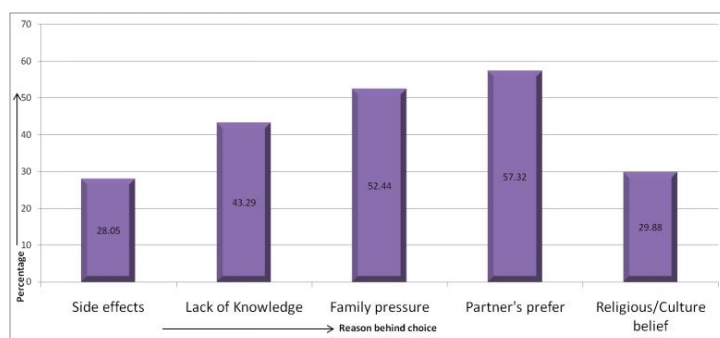


Figure 3: Bar diagram showing percentage distribution of post-partum mothers by reasons for not using contraceptive methods

A majority of participants expressed satisfaction with counselling by healthcare providers. However, many did not receive

counselling at all, (Figure 4) highlighting the need to strengthen counselling services in postnatal care.

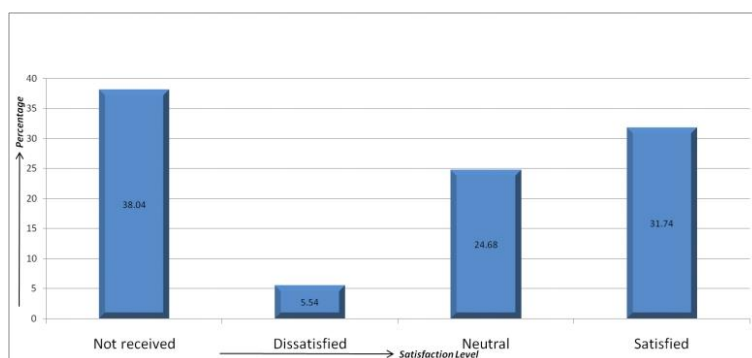


Figure 4: Bar diagram showing distribution of postpartum mothers based upon their satisfaction with the counselling by healthcare provider

However, when asked about their preferences for future contraceptive use, a considerable number of women indicated interest in switching to IUCD, particularly Copper T, reflecting a growing preference for long-acting reversible contraceptives (Figure 5).

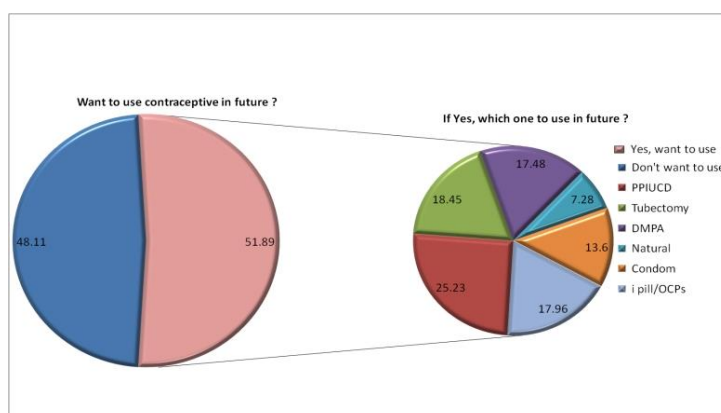


Figure 5: Pie chart showing distribution of postpartum mothers based upon their desire to use a different contraceptive method in future.

Chi-square tests indicated significant associations (Table 2), notably between the

contraceptive usage with number of living children and receipt of contraceptive

counselling. ($p < 0.001$) Additionally, a significant association was found between receiving counselling and the type of method

chosen ($p < 0.001$). (Table 3) This emphasizes the influential role of counselling in contraceptive uptake and method selection.

Table 2: Association of current contraceptive use with healthcare provider counselling and the number of living issue(s) among participants

Variable		Current use of one contraceptive method		Total (n=397)	χ^2	p value
		No (n=164)	Yes (n=233)			
Counselling from Healthcare provider	No	93	58	151	41.336	<0.001
	Yes	71	175	246		
Living issue	≤ 2	145	154	299	25.792	<0.001
	>2	19	79	98		

Table 3: Association between receipt of counselling from healthcare providers and current contraceptive usage among postpartum mothers

Received counselling	Current Contraceptive usage				χ^2	p value
	Not using (n=164)	PPIUCD (n=65)	Tubectomy (n=125)	Chhaya (n=43)		
No (n=151)	93	8	46	4	57.66	<0.001
Yes (n=246)	71	57	79	39		

DISCUSSION

This study explored the awareness, usage, and influencing factors behind contraceptive choices among postnatal mothers admitted to a tertiary care hospital in Kolkata.

A strong association was found between contraceptive counselling and contraceptive usage, as well as with the type of contraceptive chosen. This is consistent with the findings of Kavanaugh & Jerman (5) and Hellerstein et al (6), who reported that structured, timely counselling significantly increases postpartum contraceptive uptake. Our findings also reinforce the value of high-quality family planning counselling, as seen in rural Uttar Pradesh, where receipt of any or high-quality counselling increased odds of modern method use (OR = 2.4 to 4.1) (11).

In our study, the most used method was tubectomy. This preference aligns with national patterns where female sterilization remains dominant; reversible methods, especially LARCs, are underutilised even when safe and accessible (12). Whereas Bhattacharya et al (3), who also studied postnatal women in Kolkata, found a higher preference for reversible methods like PPIUCD and OCPs. The difference may be attributed to variation in the study population; our sample consisted of immediate postpartum inpatients, whereas other studies may have included follow-up or community-based samples. Several demographic and pregnancy-related

factors such as age, parity, education, and timing of antenatal visits have been shown to significantly influence contraceptive choices in the postnatal period (13).

In contrast to Mammen et al (14), who reported underutilization of long-acting reversible contraceptives (LARC) due to provider bias, our data suggest an increasing interest in IUCDs, for future use. This could reflect changing attitudes in urban hospital settings and gradual improvement in awareness, though actual uptake remains limited.

An interesting divergence was observed in education trends. While Sharma et al (4) and Bhattacharya et al (3) linked higher education with increased contraceptive use, our study did not find a strong correlation—possibly due to the overwhelming influence of counselling over formal education in a hospital environment, where even less-educated mothers received one-on-one guidance.

A comparison with the study by Singh et al provides additional insight into regional contraceptive patterns. In their study, out of 492 postpartum women, 56.9% accepted one of the contraceptive methods during their hospital stay, with the intrauterine device (PPIUCD) being the most chosen method (45%) (15). This aligns with our findings with future preference for IUCD. Both our study and theirs recognize the importance of counselling - the quality and access appeared

to have a more direct impact on method uptake.

Another comparison with the study conducted by Farogh and Palve provides important contextual insights. The contraceptive methods most selected in the postpartum period were PPIUCD, barrier methods, tubal ligation, and injectable contraception, with condoms being the most frequently adopted. Key factors influencing contraceptive choice included parity, breastfeeding status, education, and socio-economic background. Their findings revealed condom as the most accepted methods, followed by PPIUCD, tubal ligation and oral contraceptive pills (16). In contrast, our study found tubal sterilisation to be the most adopted method among postnatal mothers, and IUCDs were frequently expressed as a preferred future option in those who have not undergone permanent sterilisation.

Strengths of the study- The study focused on immediate postpartum inpatients, which reduces recall bias and captures decision-making at a crucial reproductive stage. A pre-tested semi-structured tool was used including a wide range of variables—demographic, socio-economic, cultural, and clinical—providing a comprehensive overview. Moreover, the study was conducted in a government tertiary care centre, reflecting the ground reality of public healthcare delivery in urban India.

Limitations: Unlike community-based studies, our data do not reflect the views of postnatal mothers who did not deliver in hospitals or those who were not admitted. The cross-sectional design limits our ability to assess long-term adherence or outcomes related to contraceptive use. Being conducted in a single institution, findings may not be generalizable to rural or private sector setups with different counselling resources or patient profiles. Additionally, no follow-up was done to evaluate how many mothers adopted a different method in the future, despite expressing interest. Another notable limitation is the absence of counselling regarding Implanon, a highly effective and safe long-acting reversible contraceptive (LARC), due to its unavailability in the hospital during the study period. Despite these limitations, the study adds to existing literature by capturing real-time preferences and the immediate postpartum impact of counselling—a period underrepresented in many previous studies. Future longitudinal studies may be conducted

to track long-term continuation and satisfaction of contraceptive methods, addressing the current study's cross-sectional limitation.

CONCLUSION

In this study, tubectomy emerged as the most utilized contraceptive method among immediate postpartum hospitalized mothers, indicating a strong preference for permanent methods of family planning. However, among those who had not undergone sterilization, a notable inclination toward intrauterine contraceptive devices (IUCDs) was observed, suggesting increasing awareness and acceptance of long-acting reversible methods. Strengthening postpartum counselling can further enhance informed contraceptive choices. Future studies should explore the inclusion and acceptability of newer long-acting reversible options such as Implanon NXT to broaden contraceptive choices for postpartum women.

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CONFLICT OF INTEREST: The authors declare no conflict of interest. Participation was voluntary, informed consent was obtained, and ethical guidelines were strictly followed throughout the study.

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