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Indian Journal of Obstetrics and Gynecology Research

Journal homepage: www.ijogr.org

Original Research Article

Postpartum contraception: Where do we stand in 2024

Shilpa Kshirsagar¹, Prachi Dwivedi^{1*}¹Dept. of Obstetrics & Gynecology, Dr. D Y Patil Medical College hospital and Research Center, Pune, Maharashtra, India

ARTICLE INFO

Article history:

Received 05-09-2024

Accepted 30-09-2024

Available online 15-02-2025

Keywords:

Contraception

Postpartum

Awareness

Barriers

ABSTRACT

Background: Contraception is vital for reducing unwanted pregnancies and promoting healthy living among women. The postpartum period offers a unique opportunity to implement birth spacing strategies that can significantly improve maternal and infant health outcomes. Despite the availability of effective contraceptive methods, many women do not use contraception postpartum. This study aims to assess knowledge, attitude about post-partum contraception among post-partum women in Pune to identify gaps and barriers to effective contraceptive use. Maximum need of contraception is in post-partum period to prevent pregnancies in lactational amenorrhoea & to reduce risks related to short interpregnancy intervals.

Materials and Methods: This cross-sectional study was conducted over six months at a tertiary care centre in Pune. It included 460 postpartum women aged 18-49 years who were interviewed one day before discharge. Data was collected using a structured questionnaire, capturing demographic details, awareness, attitudes, and practices related to contraception. Descriptive and inferential statistics were used to analyze the data. Chi-square tests were employed to determine associations between demographic factors and awareness and usage of contraception. Statistical significance was set at $p < 0.05$.

Results: The majority of participants were aged 21-25 years (55%), from urban areas (51%), and practiced Hindu religion (89%). Awareness of at least one contraceptive method was high (90%), with sterilization (88%), condoms (80%), and intrauterine devices (70%) being the most known methods. However, only 70% used any form of contraception, with condoms and IUDs being the most commonly used (20% each). The primary reasons for non-usage included fear of side effects (32%), family objections (22%), and lack of awareness (17%). Significant differences in awareness and usage were found based on residential area, education level, and parity, but not on religion or occupation.

Conclusion: The study highlights a significant gap between high awareness and the lower practice/willingness of contraceptives among postpartum women in Pune, with disparities driven by factors such as urban residency, education, and parity. Fear of side effects, family objections, and lack of awareness were key barriers to contraceptive uptake. To address these issues, targeted health education, particularly in rural areas, and inclusive counselling sessions involving partners and families are essential. By overcoming these barriers, contraceptive usage can be increased, ultimately improving maternal and infant health outcomes in the region.

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1. Introduction

Contraception is a crucial intervention for reducing unwanted pregnancies and promoting healthy living among

women. The benefits of family planning have been increasingly recognized worldwide, including improved health, economic, and social outcomes for women and families, as well as public health, economic, and environmental benefits at the population level.¹ Family planning is essential to controlling population growth,

* Corresponding author.

E-mail address: prachi.93.dwivedi@gmail.com (P. Dwivedi).

reducing the strain on resources, and enhancing the quality of life. It is especially critical in developing countries like India, where population control is a significant public health issue.

Childbirth profoundly affects the priorities, attitudes, and lifestyles of women. The postpartum period is particularly significant because it offers a unique opportunity to implement birth spacing strategies that can substantially improve maternal and infant health outcomes.² Adequate birth spacing can reduce the risks associated with closely spaced pregnancies, such as preterm births, low birth weight, and maternal depletion syndrome. The majority of women resume sexual activity within several weeks of delivery. However, the duration of postpartum infertility varies greatly among women and is influenced by several factors, including breastfeeding status. Ovulation can occur even if menstruation has not resumed, potentially as early as 25 days postpartum. The likelihood of ovulation occurring before the return of menstruation increases over time, emphasizing the need for effective postpartum family planning (PPFP).³

PPFP focuses on preventing unintended and closely spaced pregnancies during the first 12 months following childbirth.⁴ There are numerous safe and effective contraceptive methods that women can start at different points after delivery. These include methods that can be initiated immediately postpartum, such as intrauterine devices (IUDs) and certain hormonal contraceptives. Immediate postpartum contraception is vital for optimizing birth spacing and ensuring that women have control over their reproductive health during this critical period.⁵

Despite the availability of effective contraceptive methods and the knowledge of their benefits, many women do not use contraception postpartum. Several barriers contribute to this gap, including cultural and religious beliefs, lack of access to healthcare services, misinformation about contraceptive methods, and concerns about side effects. In many cases, women may not receive adequate counselling about their contraceptive options before discharge from the hospital after delivery.

This study aimed to evaluate the differences in awareness and usage of contraceptives among post-partum women in a tertiary care centre in Pune, Western Maharashtra with the goal to identify gaps and barriers to effective contraceptive use. The insights gained from this research will help in designing targeted interventions to improve contraceptive uptake and promote better reproductive health outcomes for women in this region.

2. Materials and Methods

This cross-sectional study was conducted over a six-months period at Dr. D. Y. Patil Medical College, Pune, between January 2023 to June 2023. The study was designed to assess the knowledge & willingness/attitude, towards the

use of postpartum contraception among women at Dr. D. Y. Patil Hospital. The research focused on postpartum women who were interviewed one day before their discharge from the hospital.

Participants were selected based on specific inclusion criteria: women who had recently delivered (after 24 hours of delivery & preferably on Day 2 of FTND/ Day 4 of LSCS) and were within the reproductive age range of 18-49 years. Exclusion criteria were women who were currently using any form of contraception, obstetric patients, and those who were not willing to participate or were under critical care. Given a reported prevalence of contraceptive use of 73.9% (11), a 5% type I error rate, 80% power, and 5% relative precision, the required sample size was determined to be 460 to provide sufficient statistical power to detect differences in knowledge and usage patterns among the participants. Participants were recruited by convenience sampling method during their post-partum stay in the hospital.

The study was approved by the Institutional Ethics Committee of D.Y. Patil Medical College Hospital and Research Centre with reference no -I.E.S.C./W/162/2024. Participation in the study was entirely voluntary, and informed consent was obtained from all participants prior to their involvement.

Data were collected using a pre-designed, structured questionnaire. This questionnaire was developed to capture detailed information on demographic details, awareness of various contraceptive methods, reasons for non-acceptance, and other relevant factors influencing contraceptive use. The questionnaire was divided into several sections and designed to collect information on demographic details, knowledge, willingness/attitude related to contraception practices.

Trained healthcare professionals administered the questionnaire through face-to-face interviews to ensure accuracy and clarity of responses. This approach also allowed the interviewers to provide any necessary clarifications and ensure that the participants fully understood the questions.

The collected data were entered into an Excel spreadsheet and analyzed using SPSS version 21.0. Descriptive statistics were used to summarize the data, with results presented as frequencies and percentages. Subgroup analyses were conducted to explore differences in knowledge, and practices based on demographic factors such as age, educational level, and parity status. Descriptive statistics included means, standard deviations, and percentage distributions. Inferential statistics, specifically chi-square tests, were used to determine associations between categorical variables, such as the relationship between educational status and awareness of contraception. Statistical significance was set at a p-value of <0.05.

3. Results

The demographic characteristics of the 460 postpartum women who participated in the study are summarized in Table 1. The majority of the participants were between the ages of 21 and 25 years (55%). Most participants (51%) were from urban areas, and the majority (89%) practiced Hindu religion. In terms of educational status, the majority of the participants were literate, with 89% having some level of education. Most participants (95%) were housewives, and the majority (61%) were primiparas, as shown in Table 1.

Table 1: Demographic characteristics of the study participants (N=460)

Demographic Characteristic	No. of participants	Percentage participants
Age group (years)		
18–20	92	20%
21–25	253	55%
26–30	85	18%
31–35	26	6%
36–40	4	1%
Area		
Rural	225	49%
Urban	235	51%
Religion		
Hindu	410	89%
Muslim	35	8%
Others	15	3%
Educational status		
Illiterate	50	11%
Primary	220	48%
Secondary	100	22%
Higher secondary	55	12%
Graduate	25	5%
Postgraduate	10	2%
Occupation		
Housewife	435	95%
Working	25	5%
Parity		
1	280	61%
2	140	30%
3	35	8%
>3	5	1%

Out of total 460, 90% (414) were aware of at least one contraceptive method. The proportion of people aware for specific contraceptives, as shown in Table 2.

70% (322) of participants had used at least one method of contraceptive before planning pregnancy. Condoms and IUCD were the most commonly used methods, each with a usage rate of 20%, as shown in Table 3.

The primary reasons for non-usage of contraception were documented and are detailed in Table 4. The most frequently cited reason was fear of side effects, which accounted for 32% of the responses, as shown in Table 4.

Table 2: Awareness of contraceptive methods among study participants (N=460)

Contraceptive Method	No. of participants	Percentage participants
Sterilization	405	88%
Condoms	368	80%
Intra-Uterine Contraceptive Devices (IUCD)	322	70%
Oral Contraceptive Pills (OCP)	276	60%
Emergency Contraception	69	15%

Table 3: Usage of contraceptive methods among study participants (N=460)

Contraceptive Method	No. of participants	Percentage participants
Condoms	96	21%
Sterilization	74	16%
Injectables	14	3%
IUCD	92	20%
OCP	23	5%
Natural methods	23	5%
None	138	30%

Table 4: Reasons for non-usage of contraception (N=138)

Reasons for non-usage	Number of participants	Percentage participants
Fear of side effects	46	33%
Family objections	30	22%
Lack of awareness	23	17%
Religious beliefs	10	7%
Opposition from partner	19	14%
Other reasons	10	7%

Inferential statistics were used to examine associations between demographic factors and both awareness and usage of contraception. For this, chi-square test and fishers exact test were performed. To ensure that the data meets the test assumptions, some categories of demographic variables were merged. The results of statistical analyses comparing the awareness and usage of contraceptives among study participants are given in Tables 5 and 6.

The analysis revealed significant differences in both awareness and usage of contraceptives among various demographic characteristics. Awareness of contraceptives was significantly associated with age group ($X^2(1, N = 460) = 19.50, p < 0.01$), residential area ($X^2(1, N = 460) = 34.94, p < 0.01$), education level ($X^2(1, N = 460) = 8.42, p < 0.01$), and parity ($X^2(1, N = 460) = 53.31, p < 0.01$). Similarly, the usage of contraceptives showed significant differences based on residential area ($X^2(1, N = 460) = 30.20, p < 0.01$), education level ($X^2(1, N = 460) = 17.94, p < 0.01$), and parity ($X^2(1, N = 460) = 151.28, p < 0.01$).

The analysis did not reveal significant differences in contraceptive awareness based on religion ($X^2(2, N = 460) = 2.73, p = 0.26$) or occupation ($X^2(1, N = 460) = 0.23, p = 0.63$). Similarly, contraceptive usage did not show significant differences based on age group ($X^2(1, N = 460) = 0.22, p = 0.64$), religion ($X^2(2, N = 460) = 0.34, p = 0.85$), or occupation ($X^2(1, N = 460) = 0.11, p = 0.74$). These results suggest that these demographic characteristics do not significantly influence awareness and usage of contraceptives among the study population, as shown in Tables 5 and 6.

4. Discussion

The findings of our study highlight significant disparities in the awareness and usage of postpartum contraceptive methods among women in Pune based on demographic characteristics. Our study revealed that 90% of the participants were aware of at least one contraceptive method, with sterilization, condoms, and intrauterine contraceptive devices (IUCDs) being the most commonly known methods. However, despite high levels of awareness, only 70% of the participants were using any form of contraception, indicating a gap between awareness and actual usage.

One of the key demographic factors with significantly different proportions of women having awareness and using contraceptives was the residential area. Women residing in urban areas demonstrated higher awareness (95%) and usage (82%) of contraceptive methods compared to their rural counterparts (75% awareness, 58% usage). This disparity could be attributed to better access to healthcare services, more comprehensive health education, and greater exposure to family planning campaigns in urban areas.^{1,2} Similarly, women with higher education (secondary to postgraduate) had a higher proportion of women who were aware of and used contraceptives compared to those with lower education levels (illiterate to primary). This finding aligns with previous studies that have shown education as a critical factor in enhancing knowledge and adoption of contraceptive methods.^{3,4} Education empowers women with the knowledge to make informed decisions about their reproductive health and increases their ability to access and utilize healthcare services.⁶

In our study, women of varying parity had significantly different proportions of women aware of contraceptive methods, with women having two or more children showing higher contraceptive usage compared to those with one child. This could be due to increased counselling on family planning during multiple pregnancies and the greater need for effective birth spacing to manage family size and health outcomes.⁷ The study found no significant differences in awareness and usage based on religion and occupation. This suggests that cultural and religious beliefs, as well as employment status, may not be as influential

in this particular cohort, potentially due to the relatively homogenous nature of the population studied.

The most cited reason for non-usage of contraception was fear of side effects (33%). This is consistent with findings from other studies, indicating that concerns about adverse effects remain a significant barrier to contraceptive uptake.^{8,9} Addressing these fears through targeted education and counselling is critical to bridge the gap between awareness and actual usage. Family objections and opposition from partners were also notable barriers. This underscores the importance of involving partners and families in contraceptive counselling sessions to foster a supportive environment for women to make informed choices about their reproductive health.^{10,11} Our study findings are similar to the findings by Pal et al. (2021), who reported that awareness and usage of contraception were higher among women with better education and those living in urban areas.¹² This similarity could be attributed to similar socio-economic dynamics and access to healthcare resources in the studied populations. Additionally, a study conducted in Kanchipuram, Tamil Nadu, reported that 96% of participants were aware of at least one contraceptive method, and barrier methods like condoms were the most preferred, similar to our findings.¹³ Another study in Tirupati, Andhra Pradesh, found that 89.3% of women were literate, and acceptance of contraception was highest among educated working women and the urban population, which aligns with our observation that education and urban residence are significant factors.¹⁴

A study by Tejasvi et al (2021) found that the most commonly known contraceptive methods were condoms and IUCDs, with 96% awareness among postpartum women in Kanchipuram, which is similar to our findings of high awareness levels.¹³ Similarly, Zohara et al (2022) reported that educated working women in urban areas had the highest acceptance of contraception, which supports our observations regarding the influence of education and urban residency on contraceptive usage.¹⁴ Furthermore, a study conducted in Nadia District, West Bengal, by Bairagya et al. (2021) emphasized the importance of healthcare providers in promoting contraceptive methods, highlighting that ASHA workers played a significant role in increasing the usage of injectable contraceptives.¹⁵

Our study had several limitations. The cross-sectional design limits the ability to establish causality between demographic characteristics and contraceptive use. Additionally, the use of convenience sampling may introduce selection bias, as participants were recruited from a single medical college, potentially limiting the generalizability of the findings to the broader population of Pune.

Table 5: Comparison of awareness of contraceptives among study participants by their demographic characteristics (N=460)

Variable	No. of participants aware of at least one method (%) (n=414)	No. of participants not aware of any method (%) (n=46)	Statistical test and its value	P value
Age group (years)				
18 – 25 (n=345)	277 (60%)	68 (15%)	19.50	<0.01*
26–40 (n=115)	68 (15%)	47 (10%)		
Residential Area				
Rural (n=225)	170 (37%)	55 (12%)	34.94	<0.01*
Urban (n=235)	224 (49%)	11 (2%)		
Religion				
Hindu (n=410)	298 (65%)	112 (24%)	2.73	0.26
Others (n=50)	31 (7%)	19 (4%)		
Education level				
Illiterate to Primary (n=270)	206 (45%)	64 (14%)	8.42	<0.01*
Secondary to post-graduate (n=190)	168 (37%)	24 (5%)		
Occupation				
Housewife (n=435)	320 (70%)	115 (25%)	0.23	0.63
Working (n=25)	20 (4%)	5 (1%)		
Parity				
1 (n=280)	175 (38%)	105 (23%)	53.31	<0.01*
2 or more (n=180)	168 (37%)	12 (3%)		

*Results are statistically significant

Table 6: Comparison of usage of contraceptives among study participants by their demographic characteristics (N=460)

Variable	No. of participants using at least one method (%) (n=322)	No. of participants not using any method (%) (n=138)	Statistical test and its value	P value
Age group (years)				
18 – 25 (n=345)	244 (53%)	101 (22%)	0.22	0.64
26–40 (n=115)	78 (17%)	37 (8%)		
Residential Area				
Rural (n=225)	130 (28%)	95 (21%)	30.2	<0.01*
Urban (n=235)	192 (42%)	43 (9%)		
Religion				
Hindu (n=410)	220 (48%)	190 (41%)	0.34	0.85
Others (n=50)	17 (4%)	33 (7%)		
Education level				
Illiterate to Primary (n=270)	168 (37%)	102 (22%)	17.94	<0.01*
Secondary to post-graduate (n=190)	154 (34%)	36 (8%)		
Occupation				
Housewife (n=435)	290 (63%)	145 (32%)	0.11	0.74
Working (n=25)	18 (4%)	7 (2%)		
Parity				
1 (n=280)	112 (24%)	168 (37%)	151.28	<0.01*
2 or more (n=180)	210 (46%)	15 (3%)		

*Results are statistically significant

5. Recommendations

To improve postpartum contraceptive uptake, we recommend implementing targeted health education campaigns in rural areas and among less educated populations. Training healthcare providers to address fears and misconceptions about contraception through evidence-based counselling is also crucial. Involving partners and families in contraceptive counselling sessions can help create a supportive environment for women.

6. Conclusion

While awareness of contraceptive methods is high among postpartum women in Pune, significant barriers to usage persist. Addressing these barriers through targeted interventions can enhance contraceptive uptake and promote better reproductive health outcomes, ultimately contributing to improved maternal and infant health.

7. Source of Funding

None.

8. Conflict of Interest

None.

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Author's biography

Shilpa Kshirsagar, Associate Professor

Prachi Dwivedi, Junior Resident

Cite this article: Kshirsagar S, Dwivedi P. Postpartum contraception: Where do we stand in 2024. *Indian J Obstet Gynecol Res* 2025;12(1):55-60.