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Factors Associated with Refusal of Postpartum Sterlization among Parturient Women

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Abstract

Background: Postpartum sterilization is a widely accepted, safe, and effective permanent method of contraception. Despite its advantages and convenience during childbirth hospitalisation, refusal rates remain significant, particularly in low-resource settings.

Objective: To identify socio-demographic and cultural factors associated with refusal of postpartum sterilization and assess awareness levels regarding its advantages and disadvantages among parturient women.

Methods: This prospective observational study was conducted over 18 months at the Department of Obstetrics and Gynaecology, Gandhi Medical College, Bhopal. A total of 400 eligible parturient women with at least two living children who declined postpartum sterilization were included. Data were collected using a pre-tested proforma through interviews and clinical records. Awareness levels were assessed using a structured scoring system.

Results: The majority of participants were aged 25–29 years (41.8%) and resided in rural areas (63.0%). Most refusals occurred despite prior antenatal care (56.0%) and were higher following vaginal delivery (64.0%). The predominant reason for refusal was the desire for a male child (66.5%), followed by family member denial (15.8%) and concerns about hospital stay (13.3%). While 95.8% of participants were aware that sterilization is a permanent method, only 11.0% demonstrated comprehensive knowledge. Misconceptions were common, with 94.8% unaware that vasectomy is a viable alternative and 89.0% believing sterilization impairs daily functioning.

Conclusion: Cultural beliefs, gender preference, limited awareness, and familial opposition remain critical barriers to postpartum sterilization uptake. Targeted counselling interventions are essential to address misconceptions and promote informed reproductive choices.

Keywords: Postpartum sterilization, refusal, permanent contraception, family planning, gender preference, awareness, socio-demographic factors, India.

Introduction

Postpartum sterilization is a widely accepted method of permanent contraception that is both safe and effective[1]. It offers a strategic opportunity to prevent unintended pregnancies and improve maternal and child health outcomes, especially in resource-constrained settings[1]. Globally, family planning remains a crucial public health intervention, yet over 222 million women in low- and middle-income countries continue to face unmet needs for contraception. In this context, postpartum sterilization, particularly when performed during hospitalisation for childbirth, is a convenient, cost-effective, and feasible option for women who have completed their families[2].

Despite its advantages, a considerable number of eligible parturient women decline postpartum sterilization[3]. The refusal is shaped by a complex interplay of factors, including socio-demographic variables, cultural beliefs, religious ideologies, economic constraints, family dynamics, lack of awareness, and misinformation regarding the procedure[4,5]. Studies have shown that reasons for refusal often include the desire for a male child, family member denial, fear of surgery, poor obstetric history, and concerns about extended hospital stay[3,6,7]. In some communities, myths surrounding sterilization—such as its impact on sexual function or overall health—persist and further hinder its acceptance.

India, with its longstanding national family planning programme, has historically promoted sterilization, particularly female sterilization, as a major component of its population control strategies[1,8,9]. However, while overall uptake has been high, significant disparities remain. Data from the National Family Health Survey (NFHS-5) indicate that nearly 37% of Indian women between the ages of 15 and 49 have undergone sterilization, with most procedures occurring between 20 and 35 years of age[10]. Yet, refusal rates in eligible populations—especially among multiparous women—highlight the need for deeper understanding and targeted interventions[11,12].

This study was undertaken in a tertiary care centre in central India to investigate the factors associated with refusal of postpartum sterilization among parturient women. It aims to evaluate both the socio-demographic determinants and the awareness levels regarding the advantages of the procedure. By identifying the barriers and knowledge gaps, the study seeks to inform strategies for improving counselling, enhancing informed decision-making, and ultimately strengthening postpartum family planning services.

Material and Methods

Study Design: This was a prospective observational study.

Study Setting: The study was conducted in the Department of Obstetrics and Gynaecology at Gandhi Medical College, Bhopal, a government tertiary care hospital.

Ethical Clearance: The study received approval from the Institutional Ethics Committee of Gandhi Medical College, Bhopal.

Study Duration: The study was conducted over a period of 18 months, from August 2022 to February 2024.

Study Outcomes

1. Identification of common factors associated with refusal.
2. Assessment of awareness levels regarding the advantages of postpartum sterilization.

Measurement of the Outcome: Data were collected using a pre-structured and pre-tested proforma. Variables such as socio-demographic profile, delivery details, and specific reasons for refusal were recorded. Awareness was assessed using a structured scoring system.

Time Points of Outcome Measurements: Data were collected during hospital stay, either during caesarean section or within seven days postpartum following vaginal delivery.

Study Universe: All parturient women delivering at Gandhi Medical College, Bhopal, during the study period.

Study Participants: Parturient women with at least two living children who refused postpartum sterilization during caesarean section or within 7 days after vaginal delivery.

Inclusion Criteria

- Parturient women with at least two living children.
- Refusal of postpartum sterilization during LSCS or within 7 days of vaginal delivery.
- Willingness to give written informed consent.

Exclusion Criteria

- Primipara women.
- High-risk multipara women.
- Multipara women undergoing tubal sterilization.
- Patients with abortion.
- Those not willing to give consent.

Sample Size: The calculated sample size was 379 based on prevalence (44.4%), with a 5% margin of error. A rounded sample size of 400 participants was included.

Sampling Methodology: A non-random purposive sampling method was used, including all eligible and consenting participants during the study period.

Participant's Recruitment: Participants were recruited from postpartum patients admitted in the hospital during the study period, based on inclusion criteria.

Obtaining Informed Consent: Written informed consent was obtained after explaining the purpose, nature, and process of the study in a language best understood by the participants.

Data Sources: Primary data were collected directly from participants using interviews and clinical records.

Data Collection Procedure: Eligible participants were identified during their postpartum stay. Interviews were conducted, and data were recorded on the pre-designed proforma.

Data Quality Assurance: All data collection was supervised by the investigator. Proformas were cross-checked for completeness and consistency. Data were entered into SPSS version 23.

Statistical Analysis Plan: Descriptive statistics (frequency and percentage) were used to summarise the data. Associations between variables were analysed using appropriate inferential statistics. A p-value < 0.05 was considered statistically significant.

Results

A total of 400 parturient women who refused postpartum sterilization were included in the present study. The distribution of participants across socio-demographic and obstetric parameters is detailed below.

The majority of participants were in the 25–29 years age group (41.8%), followed by those aged 30–34 years (29.3%). Women aged 20–24 years comprised 18.5% of the study population, while 9.5% were in the 35–39 years range, and only 1.0% were aged 40 years or above. This indicates that most refusals occurred among younger women within their prime reproductive years.

In terms of educational status, 23.5% of participants had completed higher secondary education, and 22.8% had studied up to high school. Middle and primary school education levels were reported in 17.3% and 15.5% of cases, respectively, while 13.0% were graduates or above. Notably, 8.0% of the women were illiterate, reflecting that refusal of sterilization occurred across all educational backgrounds. With regard to socioeconomic status, assessed using the modified Kuppuswamy scale,

the largest proportion of participants belonged to the middle class (37.8%), followed by upper-lower class (25.0%) and upper-middle class (16.0%). Women from the lower and upper classes comprised 11.8% and 9.5%, respectively, indicating that economic status did not significantly influence the likelihood of refusal. A larger proportion of participants resided in rural areas (63.0%) compared to urban areas (37.0%). This rural predominance suggests that barriers to postpartum sterilization may be more pronounced in non-urban populations, potentially due to limited access to counselling or entrenched socio-cultural norms.

In terms of parity, 38.5% of women had a parity of two, while 35.5% had three to four children, and 26.0% were grand multipara with more than four living children. This highlights that refusal was not confined to women with smaller families. Regarding antenatal care, 56.0% of participants were booked cases, while 44.0% were unbooked. This suggests that even among women who received regular antenatal follow-up, postpartum sterilization counselling may not have been adequately effective. With respect to mode of delivery, the majority had undergone normal vaginal delivery (64.0%), followed by caesarean section (34.8%). Instrumental deliveries were rare, with 0.8% delivered via ventouse and 0.5% via forceps. The higher refusal rate following vaginal delivery may be attributed to the delayed timing of sterilization after spontaneous birth and concerns over prolonged hospital stay.

The reasons cited by women for refusing postpartum sterilization are detailed in Table 1. The most frequently reported reason was the desire for a male child, accounting for 66.5% of refusals. Other common reasons included denial by family members (15.8%) and concerns regarding prolonged hospital stay (13.3%). Less frequently reported causes were bad obstetric history (5.5%), intention to have more children (4.3%), refusal by the operating surgeon (3.8%), lack of consent from husband or family member (3.8%), and desire for a female child (3.5%). A smaller proportion of women cited fear of surgery (1.5%) or provided miscellaneous reasons (4.5%). These findings underscore the strong influence of cultural norms, gender preference, and family dynamics in contraceptive decision-making.

Table 1: Reasons for Refusal of Postpartum Sterilization (n = 400)

Reason for Refusal	Frequency (n)	Percentage (%)
Desire for male child	266	66.5%
Family member denial	63	15.8%
Prolonged hospital stay	53	13.3%
Bad obstetric history	22	5.5%
Intention to have more children	17	4.3%
Surgeon refusal (pre/intra-operative)	15	3.8%
Lack of husband/family consent	15	3.8%
Desire for female child	14	3.5%
Fear of surgery	6	1.5%
Miscellaneous	18	4.5%

Awareness regarding the advantages of postpartum sterilization was assessed and is summarised in Table 2. A high proportion of women (95.8%) were aware that sterilization is a permanent method of contraception, and 92.3% recognised its effectiveness in preventing pregnancy. Additionally, 85.0% acknowledged its role in avoiding unwanted pregnancies. However, awareness of its broader benefits was relatively low: only 53.8% recognised it as a cost-effective and convenient procedure, 51.8% knew it has no adverse effect on lactation, and fewer still understood that it is hormone-free (18.3%) or has no impact on sexual life (19.5%).

The distribution of participants based on the level of awareness is shown in Table 3. A majority (53.8%) fell into the "know more" category (scores 11–15), while 34.8% were classified under "know something" (scores 6–10). Only 11.0% demonstrated comprehensive knowledge, falling into the "know everything" group (scores 16–20), and just 0.5% had minimal awareness ("know nothing", scores 0–5). These results suggest that although general knowledge about sterilization was common, more nuanced or comprehensive understanding remained limited in a significant proportion of women.

Table 2: Awareness Regarding Advantaged of PPS

Awareness Item	Frequency (n)	Percentage (%)
It is a permanent method	383	95.8%
Highly effective method of contraception	369	92.3%
Prevents unwanted pregnancies	340	85.0%
Cost-effective and convenient	215	53.8%
Does not affect lactation	207	51.8%
No adverse effect on sexual life	78	19.5%
It is hormone-free	73	18.3%

Table 3: Distribution of Participants Based on Level of Awareness

Awareness Level	Score Range	Frequency (n)	Percentage (%)
Know everything	16–20	44	11.0%
Know more	11–15	215	53.8%
Know something	6–10	139	34.8%
Know nothing	0–5	2	0.5%

Table 4: Distribution of Patients According to Awareness of Disadvantages (n = 400)

Aware of Disadvantages	Number of Cases	Percentage (%)
Longer duration of anaesthesia	328	82.0%
Pelvic pain	340	85.0%
Chance of failure	47	11.8%
Risk of ectopic pregnancy	25	6.3%
Does not protect from STDs	35	8.8%
Reversal is not 100%	264	66.0%
Longer duration of hospital stays	195	48.8%

Table 5: Distribution of Patients According to Awareness of Misconceptions (n = 400)

Aware of Misconception	Number of Cases	Percentage (%)
Vasectomy is not an alternative	379	94.8%
Inability to do daily work	356	89.0%
Issue of regret	241	60.3%
Weight gain	213	53.3%
Effects periods	191	47.8%
Husband consent is needed	0	0.0%

Table 4 summarises the awareness among participants regarding the disadvantages of postpartum sterilization. A large proportion of women were aware that the procedure may involve a longer duration of anaesthesia (82.0%) and could lead to pelvic pain (85.0%). Awareness of other risks, however, was notably lower. Only 11.8% of participants recognised the possibility of failure, and 6.3% were aware of the risk of ectopic pregnancy following the procedure. Additionally, 8.8% understood that sterilization does not protect against sexually transmitted diseases (STDs). While 66.0% were aware that reversal is not 100% guaranteed, fewer women (48.8%) knew that sterilization may result in a longer duration of hospital stay.

Table 5 highlights the awareness levels among participants regarding common misconceptions associated with postpartum sterilization. The majority of women (94.8%) believed that vasectomy is not an alternative to female sterilization, indicating a lack of awareness about male contraceptive options. A high proportion (89.0%) thought that sterilization leads to inability to perform daily activities, while 60.3% were aware of the possibility of regret after undergoing the procedure.

Other misconceptions were also prevalent, with 53.3% of women associating sterilization with weight gain, and 47.8% believing it affects menstrual cycles. Notably, none of the participants (0.0%) believed that husband's consent is not needed, indicating a widespread assumption that spousal approval is a necessary prerequisite for the procedure.

Discussion

The findings from this study provide valuable insights into the multifaceted reasons behind refusal of postpartum sterilization (PPS) among multiparous women. The predominant reason cited for refusal was the desire for a male child, reported by over two-thirds (66.5%) of participants. This is consistent with evidence from other Indian studies, where son preference continues to exert a significant influence on reproductive decisions, especially in patriarchal and rural contexts. Studies such as that by Shanthy et al. (2017) have similarly documented son preference as a major deterrent to permanent contraceptive uptake[3]. Such findings highlight how deep-rooted gender bias and cultural conditioning continue to override medical advice and family planning interventions.

The second most commonly cited reason was family member denial (15.8%), underscoring the crucial role of familial and spousal influence in reproductive decision-making. The importance of male partner or elder family member involvement in contraception counselling cannot be overstated. These findings echo those reported in earlier studies by Alukal et al. (2019), who observed that lack of family support significantly curtailed women's autonomy in choosing sterilization[13]. Concerns over

prolonged hospital stay (13.3%) also featured prominently, particularly among women delivering vaginally, for whom sterilization requires additional admission or procedures post-delivery[6].

Interestingly, 5.5% of women cited a bad obstetric history, which may suggest hesitancy to undergo a permanent procedure until a satisfactory obstetric outcome is achieved. A smaller fraction attributed refusal to fear of surgery (1.5%), lack of consent (3.8%), or surgeon refusal (3.8%), revealing both psychological and systemic barriers to acceptance of PPS.

This finding is in alignment with Tapasvi et al. (2021), who reported that 72% of refusals were attributed to this same cultural expectation[14]. Such a pattern reflects deeply entrenched gender biases that continue to influence family planning choices, despite advancements in female education and access to antenatal care. The influence of husbands or elder family members in contraceptive decision-making was similarly noted by Pal et al. (2022), who found spousal refusal in 15.38% of cases, further substantiating the lack of reproductive autonomy among women in many families[15]. These observations are consistent with the findings of Gadre et al. (2015), who explored barriers to IUCD usage and highlighted spousal consent and negative past contraceptive experiences as major deterrents to family planning adoption[16].

The role of limited knowledge and misinformation is further highlighted by Sarkar et al. (2022), who reported that 82.38% of women were not given adequate information about the procedure, and 79.44% changed their mind post-delivery[17]. A smaller proportion of mothers (3.36%) refused sterilization due to having a young child, and 35.94% believed they were not medically fit for surgery—paralleling the minor percentages of fear of surgery (1.5%) and concern over fitness observed in the present study.

Taken together, these findings indicate that refusal of postpartum sterilization is shaped by a complex constellation of socio-cultural expectations, familial control, practical constraints, and insufficient counselling[14,17]. Addressing these issues requires not only increasing awareness and correcting misinformation, but also incorporating partners and family members into the counselling process and ensuring that discussions around permanent contraception are initiated early, ideally during antenatal visits.

Despite 95.8% of participants being aware that PPS is a permanent method of contraception and 92.3% acknowledging its high efficacy (Table 2), there was a substantial gap in comprehensive understanding. Only 11.0% of women fell under the "know everything" category, while more than a third (34.8%) were classified as having only moderate knowledge ("know something") and 0.5% had minimal awareness (Table 3). This limited depth of understanding is concerning, especially when juxtaposed with the high levels of general awareness.[13,18,19]

The present study revealed a complex awareness landscape regarding misconceptions surrounding postpartum sterilization. While a large majority of participants (94.8%) incorrectly believed that vasectomy is not a viable alternative, this reflects a persistent gendered bias and lack of information about male sterilization options, consistent with findings from other Indian settings. Despite this, awareness about certain misconceptions was more nuanced. Notably, 89.0% of women believed that sterilization leads to inability to perform daily activities, and 60.3% were aware of the potential for post-sterilization regret—indicating a

combination of misinformation and emotional apprehension surrounding the procedure.

Interestingly, none of the participants in this study believed that husband's consent is legally required, which indicates a sound understanding of consent autonomy in the context of postpartum sterilization. This finding contrasts with other studies that have documented spousal or familial gatekeeping as a barrier to sterilization, but aligns with Tapasvi et al. (2021), where this misconception was also not prevalent. It is possible that women receiving care at tertiary centres may have better exposure to correct legal and procedural information[14].

The findings also showed that 53.3% of women associated sterilization with weight gain, and 47.8% believed it affects menstruation, indicating ongoing belief in physiological side effects despite no direct scientific evidence supporting such claims. These perceptions are largely shaped by community narratives and anecdotal accounts rather than clinical counselling, highlighting a gap in fact-based, pre-procedural education.

Tapasvi et al. (2021) reported similar trends, with 84% of women believing that sterilization impairs daily functioning, and 67% fearing future regret, which closely mirrors the misconception trends observed in the present study[14]. Collectively, these results emphasise that while some legal and procedural aspects are understood correctly, significant myths regarding physical health and long-term wellbeing remain widespread. Addressing these requires structured, individualised counselling sessions, ideally incorporated into antenatal visits and postpartum discharge planning, to dispel myths and foster informed contraceptive decisions.

Conclusion

The present study highlights that refusal of postpartum sterilization among eligible multiparous women is influenced by a complex interplay of socio-cultural, informational, and logistical factors. The predominant barrier remains the desire for a male child, followed by family member denial, practical concerns regarding hospital stay, and limited comprehensive awareness. Although most women recognised sterilization as an effective and permanent contraceptive method, misconceptions and partial knowledge regarding its broader advantages and disadvantages were widespread. Misbeliefs related to daily functioning, menstrual irregularities, and weight gain continue to deter acceptance. These findings underscore the urgent need for early, targeted, and culturally sensitive counselling interventions—ideally initiated during antenatal care—to address gender bias, correct misconceptions, involve family members where appropriate, and support women in making informed reproductive choices. Strengthening community-based education and engaging male partners may further enhance the acceptance of postpartum sterilization and improve overall reproductive health outcomes.

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