



## Cross Sectional Study to Evaluate the Reason for Removal of LARC Contraception

Aisha Shahid<sup>1</sup>, Nighat Ali Shah<sup>1</sup>, Memoona Kashaf<sup>1</sup>, Asma Riyaz<sup>2</sup>, Ayesha Sattar<sup>1</sup>, Sheerin<sup>1</sup>

<sup>1</sup>Department of Gynae & Obs, JPMC, Karachi, Pakistan, <sup>2</sup>Department of Population Welfare Department (PWD), JPMC, Karachi, Pakistan,

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**Correspondence to:** Aisha Shahid, Department of Gynae & Obs, JPMC, Karachi, Pakistan.  
Email: [aishashahid538@gmail.com](mailto:aishashahid538@gmail.com)

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### ABSTRACT

**Objective:** To determine the frequency of various reasons for removal of long-acting reversible contraception (LARC) among women of reproductive age presenting at a tertiary care hospital. **Methodology:** This cross-sectional study was conducted at the Department of Obstetrics and Gynecology, Jinnah Postgraduate Medical Centre (JPMC) from March, 2025 to May, 2025 and Reproductive Health Services Center, Population Welfare Department (PWD), Karachi. A total of 143 women aged 15–45 years who were using LARC and planned to have it removed were included through non-probability consecutive sampling. A self-designed proforma was used to document demographic details and reasons for LARC removal. Data were analyzed using SPSS version 20. Frequencies and percentages were calculated, and stratification was done based on education, residence, and socioeconomic status. **Results:** Out of 143 participants, the most common reason for LARC removal was completion of the contraceptive period (44.0%), followed by desire to conceive (21.0%) and opting for another method (17.5%). Husband disapproval was reported in 8.4% of cases. Irregular per vaginal bleeding and lower abdominal pain were noted in 5.6% and 3.5% of cases, respectively. **Conclusion:** Most women discontinued LARC for planned or non-medical reasons, indicating a positive trend in contraceptive utilization. However, factors such as spousal disapproval and mild physical complaints contributed to early removal. Strengthening counseling, involving partners in family planning, and managing minor side effects can improve LARC continuation rates and overall reproductive health outcomes.

### INTRODUCTION

Reproductive health management in Pakistan, Pakistan having a booming population, is still confronted to very big problems of reproductive health management. Many women may not know about or have access to effective contraception and as a result, have high fertility and unwanted pregnancies<sup>1</sup>. Long-Acting Reversible Contraception (LARC) such as intra uterine devices (IUDs) such as copper and subdermal implants like Jadelle, among the available contraceptive methods, is a safer and effective method for long-term family planning<sup>2,3</sup>.

LARC methods have high continuation rates, however, many women will discontinue them prior to their suggested duration. This premature discontinuation compromises the influence of those strategies and signifies barriers including a lack of information, insufficient advice, cultural resistance, and physical complaints<sup>4</sup>. Worldwide, retention rates of over 60% have been reported in low-and middle-income countries and reported reasons for discontinuation include wanting a pregnancy, partner disapproval, and side effects<sup>5,6</sup>. Our study showed that a significant proportion of women

discontinue LARC because they have completed the recommended duration (43.9% in our study), desire for pregnancy (21.0% in our study) or husband's objection (8.4% in our study) and preferring other contraceptive methods (17.4% in our study)<sup>2</sup>. Other important types included irregular PV (6.5%) bleeding and lower abdominal pain (3.2%) was also big problem, but it is not considered as a problem. These elements are frequently overlooked during counselling and should be more highly addressed at the pre-insertion counselling.

Assessment of reasons for LARC discontinuation is important for identifying patient needs, enhancing continuation, and ensuring quality reproductive care. Such issues can be targeted with culturally appropriate counselling, improved follow-up structures and patient centered care to minimise early discontinuation and to support women's reproductive autonomy<sup>7-12</sup>. This study intended to provide local data for policy formation and eventual service enhancement.

### METHODOLOGY

This cross-sectional study was carried out in the

Department of Obstetrics and Gynaecology, Jinnah postgraduate Medical Centre JPMC from March, 2025 to May, 2025 and Reproductive Health Services Center, Population Welfare Department (PWD), Karachi for three months. The aim of this analysis was to assess different motivations for long-acting reversible contraception (LARC) removal among reproductive-aged women. Non-probability consecutive sampling method was used for the study.

Sample size was calculated using the WHO software for determining sample size with an estimated frequency of discontinuation of 60.7% of LARC methods, confidence level of 95% and absolute precision of 8%. One hundred and forty-three participants were included in the final sample size. Women aged 15-45 who were using any type of LARC (copper IUD, or sub-dermal implant Jadelle and intended to have it removed were eligible for inclusion. Women were excluded if they refused to respond to the questions, suffered from active urogenital tract infections, had active vaginal discharge, had sepsis or if the intrauterine device was expelled spontaneously.

Ethical clearance was obtained from the Institutional ethical committee and a written informed consent from each participant was obtained and data collections was carried out by means of proforma prepared in a structured, self-designed format. The following characteristic details of the women were noted: age, parity, area of residence (urban, rural), educational status (illiterate, school education, higher), religion, and socioeconomic status (lower, middle, upper). The respondents were also questioned regarding the cause of LARCs removed. The emerging researcher read both the original and the translated form out loud for the respondent to hear them in the local language if she was unable to read them on her own. Anonymity and confidentiality were observed during data collection.

Data was entered and analysed using SPSS software version 20. Normality of the data was tested with the Shapiro-Wilk test. Mean and standard deviation (SD) or median and interquartile range (IQR) were reported on numeric variables as appropriate, and frequencies and percentages were provided on categorical variables. Removal of LARC was stratified based on education, socioeconomic status, religion, and residence area to adjust the effect modifiers. After post-stratification, Chi-square test/Fisher's exact test was used and  $p \leq 0.05$  was regarded as statistically significant.

## RESULTS

This cross-sectional study was conducted at Department of Obstetrics and Gynaecology, Jinnah Postgraduate Medical Centre (JPMC), Karachi and 143 reproductive aged women who were consulting for removal of LARC were enrolled. The causes of discontinuation of LARC were prospectively documented and studied systematically.

The commonest indication for removal of LARC method was completion of the desired contraceptive duration as mentioned by 63 (44.0%) women. This implies favorable attitude towards family planning and compliance with the full duration of use. The need to conceive was for 30 women (21.0%), followed by selection of another method among 25 (17.5%), indicating continued contraceptive

use. Negative husband disapproval was reported in 12 (8.4%) of the cases, highlighting the impact of partner approval on contraceptive use. Physical symptoms (irregular PV) bleeding and lower abdominal pain were also reported by 8 (5.6%) and 5 (3.5%) women respectively. This, and the importance of adequate pre-insertion counselling and support services to help women to cope with such symptoms and prevent early removal is highlighted by these findings.

The subcategories of these reasons are described in Table 1 reporting the number (frequency) and percentage of respondents for each category. For the purposes of clarity, a bar chart (Figure 1) that presents the data visually is presented to allow for a quick comparison of the most common causes compared to the least common causes for LARC removal.

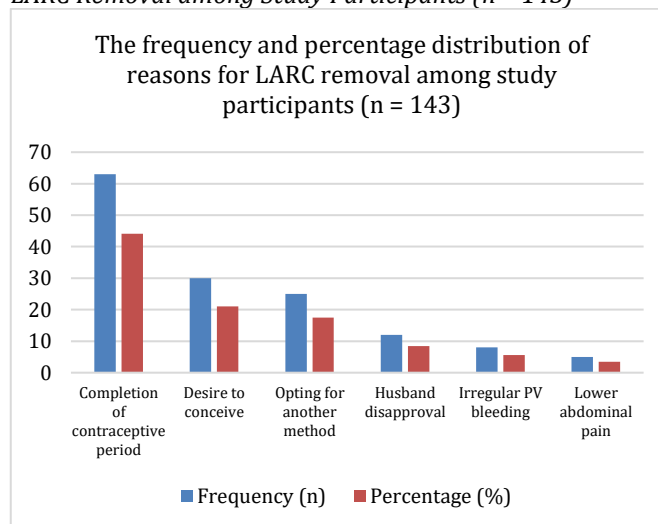
**Table 1**

*Frequency and Percentage Distribution of Reasons for LARC Removal (n = 143)*

Reason for LARC Removal	Frequency (n)	Percentage (%)
Completion of contraceptive period	63	44.1
Desire to conceive	30	21.0
Opting for another method	25	17.5
Husband disapproval	12	8.4
Irregular PV bleeding	8	5.6
Lower abdominal pain	5	3.5

**Figure 1**

*The Frequency and Percentage Distribution of Reasons for LARC Removal among Study Participants (n = 143)*



## DISCUSSION

This study was conducted to ascertain the causes of expulsion of long-acting reversible contraception (LARC) among 143 women of reproductive age attending Jinnah Postgraduate Medical Centre, Karachi. Results underscore the multifactorial nature of LARC discontinuation, with the most common reason being the end of the recommended contraceptive interval (44.0%). This indicates a favourable tendency towards compliance to methods of contraception as prescribed and that adequate pre-insertion counselling was given in a large proportion of patients.

The second most common reason reported by the users was wanting to become pregnant (21.0%), which demonstrates that LARC was effectively used for birth

spacing, and not for limiting births. This is in agreement with the findings of a study in Uganda where 26.5% of the women stopped using LARC to have children<sup>13</sup>. These trends emphasize the value of LARC as an adaptable reversible contraceptive method.

Choosing an alternative contraception method (17.5%) This indicates that some women would choose alternative methods according to side effects, ease, or partners preference. This currently inverts findings from a study in Nigeria where 18% of the LARC users had switched to short-acting methods in order to remain comfortable and feel more in control<sup>14</sup> (8.4%), an indicator of enduring cultural and gender relations that bear on contraceptive uptake in South Asia. Control or decision making by husband too was reported as a barrier to LARC re-use in a study in rural India<sup>15</sup>.

The observation of abnormal per vaginal bleeding (5.6%) and lower abdominal pain (3.5%) as a cause for removal of LARC emphasizes a need for better postinsertion follow up and reassurance. While uncommon, these concerns can lead to premature of discontinuation unless they are adequately addressed. One of the most common reasons for interval discontinuation of implants and IUDs is irregular bleeding<sup>16</sup>; this has been established in systematic reviews conducted in sub-Saharan Africa.

Importantly, no subjects within our cohort reported severe complications or medical adverse events, which presumably represent safe insertion practices and improved screening. This is different from an earlier study in Ethiopia and Bangladesh where the need for removals related to complications was higher than RH induced removals<sup>17,18</sup>, possibly due to differences in training and quality of care.

The results of this study are in line with international

initiatives to foster long-acting reversible contraception as highly effective family planning. It highlights the role of one-on-one counselling, partner involvement in family planning discussions and the management of minor side effects to improve satisfaction and continuation.

Although our study contributes to understanding the background of LARC discontinuation in an urban tertiary care institution in Pakistan but there are some limitations to be considered. Interpretations of causality are restricted by the cross-sectional study design, and the results may only be generalizable to other ICU at one centre. Further multicentre studies with long-term follow-up might offer more complete insights.

Nevertheless, our findings indicate that many women are using LARC successfully and stopping for intended reasons. Enhancing counselling services, coping with minor complaints and partner involvement could even better decrease untimely removal and increase both initiation of LARC method offer and acceptance.

## CONCLUSION

This study illuminates that most women discontinue LARC after the recommended period, due to pregnancy intention, or preference for other methods—positive contraceptive practice. But husband disapproval, irregular bleeding, and lower abdominal pain also resulted in removal. These results stress the importance of better counselling, active participation of male partners, and better management of mild side-effects. Better follow-up and patient counselling have been reported as means to further improve satisfaction and continuation. Incorporation of these strategies into family planning programs could greatly enhance reproductive health for these people.

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