

Willingness to Use Long Acting Reversible Contraceptives in Women Within Six Months of Delivery: A Descriptive Cross-Sectional Study

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ABSTRACT

Objective To explore women's willingness to use long acting reversible contraceptives within six months post-delivery.

Study design Observational cross sectional study.

Place & Duration of study Department of Obstetrics & Gynecology, Fazaia Ruth Pfau Medical College Hospital Karachi, from July 2022 to December 2022.

Methods The study included women who had recently given birth and seeking family planning, or bringing infants for vaccinations. Women with irregular menstrual cycles or abnormal vaginal discharge were excluded. A survey questionnaire was developed and used for the study. SPSS version 24 was used for data analysis. The Chi-square / Fisher-Exact test were applied to find the association of willingness to use long acting reversible contraceptives (LARC) with general characteristics of the patients. A *p* value of <0.05 was considered as significant.

Results Out of 289 women surveyed, 243 (84%) heard of long acting reversible contraceptives. Willingness to use them was reported by 189 (65.4%) with majority agreed to use intrauterine contraceptive device (40%) and implants (30.9%). LARCs were used by 84 (29.1%) women with majority using injectable contraception (39.3%). A significant association of LARC use was observed with the age (*p*=0.03), occupation of the patients (*p*=0.04), last date of delivery (*p*<0.001), previous menstrual cycle (*p*=0.02), most recent pregnancy intention (*p*<0.001), and current comorbidity (*p*=0.01).

Conclusion Despite a significant number of women showing willingness to use long acting reversible contraceptives the utilization rate remained modest at 29.1%. This highlights the need for targeted interventions to bridge the gap between knowledge and practice.

Key words Postpartum contraception, LARC, Barriers, Unintended pregnancies, Family planning.

INTRODUCTION:

Pakistan has one of the highest fertility rates in the world facing significant challenges related to

pregnancy outcomes.^{1,2} According to a study about 38% of pregnancies in Pakistan are unintended, carrying significant social, economic, and health consequences for women and their families.³ The unmet need for contraception in Pakistan is reported to be approximately 17.3% among women of reproductive age (15-49 years).⁴ More than 90% of postpartum women in low and middle income countries express a desire to prevent pregnancy for at least a year following birth.⁵

Postpartum contraception is crucial for maternal and child health. It allows women to space pregnancies, giving their bodies time to recover and

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reducing the risk of maternal and neonatal complications. It also empowers women to plan for their families, enhancing well-being and economic opportunities. By preventing unintended pregnancies, it lowers the risk of unsafe abortions and maternal mortality. Immediate access to contraception after delivery ensures optimal effectiveness.⁶

Long-acting reversible contraception refers to the methods that are largely user-independent and provide effective and reliable contraception for an extended period. LARC methods include intrauterine devices (IUD - copper intrauterine devices and progestogen-only intrauterine systems), progestogen-only injectable contraceptives and progestogen-only subdermal implants, as per the NICE Clinical Guidelines.⁷ Use of LARC methods eliminates the need for daily interventions and allows a quick return to fertility after the removal. With no interference during intercourse and reduced hormonal side effects, LARCs are particularly well-suited for breastfeeding women and those unable to use estrogen-containing methods. Their cost-effectiveness and lower discontinuation rates make them a preferred choice for postpartum contraception.^{8,9}

While the overall contraceptive prevalence rate has increased in Pakistan over the years, the uptake in LARC has been modest (3%) compared with other low and middle income countries (LMIC) where the prevalence is up to 15%.^{8,10,11} Globally, there is a dearth of high-quality data on the use of LARC in LMIC, particularly in the postpartum period.⁸ This study aimed to assess women's acceptance of LARC methods within six months post-delivery as a safe and effective means of contraception. Identifying characteristics associated with the willingness to use LARC can potentially help devise targeted interventions for increasing uptake among postpartum women.

METHODS:

Study design, place & duration: This was an observational cross sectional study conducted at Fazaia Ruth PFau Medical College Hospital Karachi, from July 2022 to December 2022.

Ethical considerations: The study was approved by the Institution Review Board letter no. IRB/25 FRPMC dated 26 -2-2022 and informed consent was taken from the study participants.

Inclusion criteria: All women delivered during the study period either vaginally or by cesarean section in the hospital having two or more alive healthy

children, those attending family planning clinic for contraception within six months postpartum and women coming for vaccination of the child age less than six months of age, were included in the study.

Exclusion criteria: Women having irregular menstrual cycles and those with abnormal vaginal discharge were excluded from the study..

Sample size estimation: Sample size was estimated to be 289 using the WHO sample size calculator.

Sampling technique: Sampling technique was non probability convenience sampling.

Study protocol: Data were collected from women after verbal informed consent in a predesigned questionnaire. The questionnaire included the demographic data, women's desire for fertility, and number of children. Knowledge about LARC methods and the willingness to use were recorded. Those having no knowledge about the LARC were explained in detail about the methods. The benefits and risks were informed and the comparison with other short acting methods was told. Those choosing a method was made sure that they were provided with it. The reasons due to which women declined or were confused also recorded. Pressure from the family or husband was also be noted. Patient's myths and views based on the previous experiences by herself, friends and family were explored. Counseling sessions were arranged to resolve woman's or husband's issues to increase the acceptance rate.

Statistical analysis: SPSS version 24 was used for data analysis. The Chi-square / Fisher-Exact tests were used where applicable, to find the association of willingness to use of LARC with general characteristics of the patients. A p-value of <0.05 was considered as significant.

RESULTS:

A total of 289 women were surveyed. Majority (n=125 -43.3%) of the women were between 31-35 years of age. Multiparity was observed in 258 (89.3%) women. Majority (n=253 - 87.5%) of the women were housewives. Eighty-seven (30.1%) women had educational status intermediate or above and husbands of 107 (37.0%) women had education intermediate or above. More than six weeks of last date of delivery was observed in 121 (41.9%) women while previous contraceptive used was reported by 136 (47.1%) women. There were 38 (13.1%) women who reported last pregnancy as unintended.

Table I: Comparison of Willingness to Use LARC With Sociodemographic and Educational Characteristics (n=289)

Variables	Total (n=289) n (%)	Willing to Use		p-value
		Yes (n=189) n (%)	No (n=100) n (%)	
Age (years)				
20-25	24 (8.3)	12 (50.0)	12 (50.0)	0.03*
26-30	118 (40.8)	71 (60.2)	47 (39.8)	
31-35	125 (43.3)	93 (74.4)	32 (25.6)	
35 and above	22 (7.6)	13 (59.1)	9 (40.9)	
Parity				
Multiparity	258 (89.3)	166 (64.3)	92 (35.7)	0.27
Grand Multiparity	31 (10.7)	23 (74.2)	8 (25.8)	
Occupation of patients				
Housewife	253 (87.5)	160 (63.2)	93 (36.8)	0.04*
Working	36 (12.5)	29 (80.6)	7 (19.4)	
Educational status of women				
Illiterate	38 (13.1)	27 (71.1)	11 (28.9)	0.61
Matriculation or less	164 (56.7)	108 (65.9)	56 (34.1)	
Intermediate or more	87 (30.1)	54 (62.1)	33 (37.9)	
Educational status of husband				
Illiterate	32 (11.1)	24 (75.0)	8 (25.0)	0.45
Matriculation or less	150 (51.9)	95 (63.3)	55 (36.7)	
Intermediate or more	107 (37.0)	70 (65.4)	37 (34.6)	
Last date of delivery				
<1 week	125 (43.3)	51 (40.8)	74 (59.2)	<0.001*
1-6 weeks	43 (14.9)	32 (74.4)	11 (25.6)	
More than 6 weeks	121 (41.9)	106 (87.6)	15 (12.4)	

Most of the women (n=243 - 84.1%) already heard about LARC. Among these 243 women who already heard about LARC, the most common source of knowledge was friend (n=100 - 41.2%), followed by family (n=82 - 33.7%), social media (n=43 - 17.7%), and newspaper (n=17 - 7.4%). There were 101 (41.6%) women who knew about both implant and IUCD method, 75 (30.9%) knew about IUCD method only, 51 (21.0%) about implant method only, and 16 (6.6%) knew about injectable only.

Willing to use LARC was reported by 189 (65.4%) women. Among these majority (n=80 - 42.3%) were willing to use IUCD as LARC, followed by implant (n=60 - 31.7%), injectable (n=46 - 24.3%), and Mirena® (n=3 - 1.6%). Of 100 women who were not willing to use LARC, the most common reason was husband not willing (n=56 - 56%), followed by want bilateral tubal ligation - (BTL - n=26 - 26%), fear side effects of LARC (n=14 - 14%), and in-laws not willing (n=4 - 4%). After counseling, only one woman

agreed to use LARC.

A significant association of LARC use was observed with age (p=0.03), occupation of the patients (p=0.04), last date of delivery (p<0.001), previous menstrual cycle (p=0.020), most recent pregnancy intention (p<0.001), and current comorbidity (p=0.01). Details are given in table I and II. LARC was actually used by 84 (29.1%) patients. Of these 33 (39.3%) used injection, 19 (6.6%) used implant, 28 (33.3%) used IUCD, and 4 (4.8%) used Mirena® (levonorgestrel-releasing intrauterine system).

DISCUSSION:

Majority of the women (about 85%) included in our study were between 26-35 years of age. Generally, women in their late 20s to early 30s might be more willing to use postpartum contraception as they may have already started or completed their families and might be more aware of the challenges of raising children and the importance of spacing pregnancies. About 84% of women in our study had heard about

Table I: Comparison of Willingness to Use LARC With Sociodemographic and Educational Characteristics (n=289)

Variables	Willing to Use			p-value
	Total (n=289) n (%)	Yes (n=189) n (%)	No (n=100) n (%)	
Previous contraceptive used				
Yes	136 (47.1)	83 (61.0)	53 (39.0)	0.14
No	153 (52.9)	106 (69.3)	47 (30.7)	
If yes, which contraceptive used (n=136)				
Withdrawal method	44 (32.4)	27 (61.4)	17 (38.6)	0.29
Condoms	60 (44.1)	32 (53.3)	28 (46.7)	
COCPS	12 (8.8)	7 (58.3)	5 (41.7)	
Injectable	11 (8.1)	10 (90.9)	1 (9.1)	
Implant	4 (2.9)	3 (75.0)	1 (25.0)	
IUCD	3 (2.2)	2 (66.7)	1 (33.3)	
Mirena® (levonorgestrel-releasing intrauterine system)	2 (1.5)	2 (100)	0 (0)	
Previous menstrual cycle				
Regular	274 (94.8)	175 (63.9)	99 (36.1)	0.02*
Irregular	15 (5.2)	14 (93.3)	1 (6.7)	
Most recent pregnancy intention				
Unintended	38 (13.1)	34 (89.5)	4 (10.5)	<0.001*
Intended	216 (74.7)	125 (57.9)	91 (42.1)	
Ambivalent	35 (12.1)	30 (85.7)	5 (14.3)	
Current Comorbidity				
Yes	67 (23.2)	52 (77.6)	15 (22.4)	0.01*
No	222 (76.8)	137 (61.7)	85 (38.3)	

LARC from their friends and family, followed by social media, emphasizing the pivotal role of the immediate social network in influencing women's decisions regarding contraception. Similar results have been reported in other studies as well.^{12,13}

Willingness to use LARC was reported by 65% of women, with the majority wanting an IUCD, followed by implants, injectable, and levonorgestrel-releasing intrauterine system. This percentage is considerably higher than those reported in other studies conducted globally.^{14,15} This may be due to free access to LARC methods in our country. It should also be noted that index study targeted women visiting healthcare facilities who might naturally be more motivated to consider LARC use.

Husband disapproval was reported as one of the major reasons for unwillingness to use LARC. This finding corroborates the results of previous studies in our region, where the support of the spouse plays a vital role in influencing women's decisions

regarding contraception.¹⁶ An unsupportive spouse is cited as one of the main barriers to modern contraception among women in low and middle income countries.⁹ Fear of side effects was another major reason for unwillingness to use LARC, a finding consistent with several other studies.^{17,18} This underscores the importance of dispelling myths and misconceptions regarding LARC use as part of contraceptive counseling in the postpartum period.¹⁹ About 30% of women participating in our study used LARC, with the most common method being injectable followed by IUD. This finding is in line with the results of another prospective study conducted in a slum area of Karachi that reported a LARC adoption rate of 32% after client-centered counseling.²⁰

Notably, the uptake of LARC did not improve after counseling among women not willing to use LARC, potentially because of the lack of partner support. This highlights the need to address partner-related factors in antenatal and postnatal counseling

programs.⁸ Globally, less than 15% of women use LARC.⁸ Europe has a varied prevalence of LARC use, ranging from 2.9% in Poland to 16% in France.²¹ However, in Sub-Saharan Africa (SSA), the prevalence is as low as 3%.²² The prevalence of LARC use in this study is considerably better compared to global statistics, showing that dedicated services with free provision of supplies can significantly improve utilization in LMIC.

Strengths of this study include the provision of LARC options to women eliminating one of the major barriers to reduced uptake of modern contraceptive techniques i.e., lack of availability as reported in literature.²³ It also thoroughly examined the factors associated with unwillingness and non-use, providing direction for future interventions.

Limitations of the study: It is a single center and thus the results may not be applicable to the general population in the region. Additionally, it was a cross-sectional study and therefore causal inferences cannot be made regarding any of the determinants. The participants in our study were provided counseling regarding LARC use. However, the effectiveness of counseling and awareness programs in increasing utilization among women were not assessed. Our study also did not assess the determinants of the unmet need for contraception in the participants, as about 35% of women did not use LARC despite their willingness. Further studies should focus on the effectiveness of counseling programs and other interventions in increasing LARC utilization.

CONCLUSION:

A substantial number of women were aware of long acting reversible contraceptives and expressed willingness to use them. However, the actual utilization rate remained modest. Factors like spousal consent and concerns about side effects emerged as significant barriers.

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Article received on: 08-01-2024

Sent for revision: 14-02-2024

Accepted after revision: 20-02-2024

Author's contributions:

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Rozina Mustafa: Conception, design and drafting of the article.

Amber Tufail: Data analysis, interpretation and critical review of the article.

Maryam Fatima: Data collection and drafting of the article.

Ethics statement: Institution review board permission was obtained prior to the study and informed consent were taken from the patients.

Competing interest: The authors declare that they have no competing interest.

Source of funding: None

How to cite this article:

Munaver SA, Mustafa R, Tufail A, Fatima M. Willingness to use long acting reversible contraceptive in women within six months of delivery: A descriptive cross-sectional study. *J Surg Pakistan*. 2023;28 (3):105-11.

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