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Long Acting Reversible Contraceptive Practices among Mothers in Coastal Areas of Bangladesh

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Abstract

Background: Long Acting Reversible Contraceptive (LARC) use helps women prevent unplanned pregnancies, space births, and balance work and family life, while large families increase their burden with added household responsibilities and financial pressure. The objective of this research is to evaluate the status of LARC use among mothers of reproductive age in the coastal areas of Bangladesh.

Materials and methods: This cross-sectional study was conducted among married women of reproductive age (15-49) in Potenga and Shitakundo, Chittagong, Bangladesh, from January to December 2019. It targeted 196 purposively selected mothers aged 18-49 with at least one child over one year old.

Results: The respondents' mean age was 28.4±5.4 years, while their husbands' mean age was 36.2±6.6 years. The majority of respondents (53.1%) used oral contraceptive pills, followed by condoms (22.4%) injectables (8.7%) IUDs (8.2%) and implants (7.7%). Most respondents had their first childbirth before age 20 (68.3%). About 58.7% were aware of LARC, with injectables being the most recognized method (51.2%). While 75% did not use LARC, 59.2% expressed an intention to use it in the future. LARC use was significantly associated with the respondent's and husband's age ($p<0.05$), with older age groups showing higher usage.

Conclusion: The study revealed that oral contraceptive pills were the most widely used method, followed by condoms and injectables. Although most respondents were aware of LARC, only a quarter used it, with injectables being the most common.

Key words: Coastal areas; Long acting reversible contraceptive, Utilization status.

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Introduction

Our planet faces challenges like over population, hunger, poverty and pollution. Bangladesh, with 164 million people and a 1.3% annual growth rate, is among the world's most densely populated countries, with 976 people per square kilometer. Managing such a large population with limited resources requires a strong focus on family planning.[1,2] As a crucial aspect of reproductive health, family planning improves women's well-being, work capacity and roles within the family.[3] It is essential for sustainable development and a better future. Prioritizing it can enhance overall health, economic stability and quality of life for generations to come.[3,4] Population growth negatively impacts socio-economic status, increases maternal and infant mortality, causes food shortages and harms children's health.[5]

Contraception is essential for controlling fertility rates.[3] Wider contraceptive use reduces population growth, leading to better health and socio-economic stability.[4] According to WHO, family planning is a voluntary approach promoting family health and social development. Its objectives include preventing unwanted pregnancies, planning births and determining family size.[6,7] Beyond birth control, it emphasizes sex education, genetic counseling, parenting, nutrition, pregnancy tests and screening for reproductive health conditions.[7,8] Family planning methods or contraceptives, prevent unwanted pregnancies and are classified as temporary or permanent. Temporary methods include short-acting options like condoms and pills, and Long-Acting Reversible Contraceptives (LARC) like IUDs, implants and injections. Permanent methods, such as no-scalpel vasectomy and tubectomy, prevent pregnancy permanently.[9,10]

Contraceptive methods are widely available to support family planning.[9] Integrated into development plans, modern contraceptives are provided free of charge. The family planning program offers a variety of options, ensuring accessibility and informed choices for all.[11]

Despite widespread contraceptive availability and awareness programs, population control remains a challenge.[3] Women in Bangladesh have higher contraceptive prevalence than men due to socio-economic and cultural factors.[6] Long Acting Reversible Contraceptive (LARC) utilization is lower than temporary methods.[12,13] Limited knowledge, poor accessibility, and concerns about side effects are major barriers in developing countries.[14]

Long-Acting Reversible Contraceptives (LARC) are highly effective, long-lasting, convenient and cost-effective, saving users significant amounts over time compared to condoms and birth control pills.[15,16] Despite their safety and effectiveness, LARC remains underutilized, with only 15.5% of women worldwide using IUDs, 3.4% using subdermal implants, and 10.5% opting for injectables.[17] In Bangladesh, usage is alarmingly low, at less than 4%. LARC is recommended for adolescents to reduce teen pregnancies and for women of all ages, regardless of childbirth history.[18,19] These methods have high acceptability, minimal contraindications, and can be inserted postpartum, with fertility quickly restored after removal.[13] LARC methods are safer, easier to use, longer-lasting, reversible and more effective than oral contraceptives, despite this, challenges to their availability and utilisation remain.

Bangladesh's rapid industrialization and urbanization are driving significant population shifts to urban slum areas, leaving women in coastal regions and slum dwellers without basic services, including reproductive healthcare.[20-22] he adoption of LARC among mothers in the coastal areas of Bangladesh is crucial in addressing reproductive health challenges. By promoting these methods, we can empower women to manage their family size, improve maternal and child health and contribute to the overall socio-economic development of the region. Increased awareness, improved accessibility and overcoming socio-cultural barriers are essential steps to ensure that LARC methods are effectively integrated into family planning programs, ultimately supporting the achievement of Sustainable Development Goals in Bangladesh.

Materials and methods

This cross-sectional study was conducted to asses the status of LARC use among married women of reproductive age (15-49 years) in the coastal areas of Patenga and Sitakunda, Chattogram district, Bangladesh. The study spanned from January to December 2019, targeting 196 purposively selected mothers aged 18-49 years, each with at least one living child aged one year or older.

Data were collected through face-to-face interviews, ensuring privacy during the process. Prior to data collection, the study's purpose was explained to each participant and written informed consent was obtained. The collected data were checked for quality, coded and verified for consistency. Descriptive analysis was conducted using IBM SPSS v23, with results presented in means, frequencies, percentages, mean, andstandard deviation. Inferential analysis was carried out as necessary based on study objectives. Ethical considerations were maintained, ensuring confidentiality and respect for participants' rights. Participants were informed of their right to refuse participation, and no invasive procedures were included in the study. The Institutional Review Board (IRB) at the National Institute of Preventive and Social Medicine (NIPSOM), Dhaka 1212, Bangladesh, approved the study (Reference: NIPSOM/IRB/2019/111).

Results

The majority of respondents were in the 26-33 age group, representing 48.0% of the sample. The mean age of 28.4±5.4 years. The majority of respondents' husbands were in the 34-41 age group, accounting for 42.3% of the sample. The 26-33 age group followed closely with 38.8%, while 17.9% of husbands were aged 42 or older. The mean age of the husbands was 36.2±6.6 years.The predominant religion among respondents was Islam (80.1%), followed by Hinduism (17.3%). The majority of respondents (60.7%) had up to a secondary level of education, with 22.5% having education beyond secondary level. A significant proportion (16.8%) were illiterate. In contrast, most respondents' husbands (50.0%) had up to secondary education, while 37.2% had education above the secondary level, and 12.8% were illiterate.The distribution of respondents by their occupation shows that the

majority (76.0%) are housewives, followed by 14.8% working as garments workers.The majority of respondents (66.8%) live in nuclear families, while 33.2% live in joint families.The majority of respondents (38.3%) have a monthly family income between 10,001-20,000 Taka, while the average family income is 19,520.4 Taka, with a standard deviation of 9,051.1 Taka (Table I).

Table II shows the distribution of respondents by current contraceptive use shows that the majority (53.1%) were using oral contraceptive pills, making it the most commonly used method. Condoms were the second most prevalent method, used by 22.4% of respondents. Injectable contraceptives were used by 8.7%, while Intrauterine Devices (IUDs) and implants were used by 8.2% and 7.7% of respondents, respectively.Oral contraceptive pills (49.5%) were the most commonly used previous method, followed closely by condoms (46.9%) while only 3.6% had used injectable contraceptives. The mean age at marriage was 29.0 (±8.7) years and 84.2% of respondents married at 18 or older, while 15.8% married before 18.The majority of respondents (68.3%) had their first childbirth before the age of 20, with a mean age of 20.9 years (±2.8). Most respondents (74.0%) had been married for 5 years or longer, with an average marital duration of 5.8 years (±2.0).Figure 1 shows that more than half of the respondents (62.8%) had their last delivery through normal delivery, followed by cesarean section (23.4%) and normal delivery with episiotomy (13.8%).

Table III shows that out of the total respondents, 58.7% reported having knowledge about Long-Acting Reversible Contraception (LARC) while 41.3% lacked such knowledge. Among those who were aware of LARC methods, the most commonly known type was injectables (51.2%), followed by IUDs (24.6%) and implants (24.2%). Figure 2 shows that 75% of respondents did not use LARC and 25% of them use LARC. Figure 3 shows that among LARC users, 35.4% used contraceptive injections, 33.3% used IUDs and 31.3% used contraceptive implants. Most respondents (56.6%) said their husbands made contraceptive decisions, while 40.8% decided themselves and 2.6% cited other family members.A majority of the respondents (59.2%) expressed an intention to use LARC in the future, while 40.2% indicated they did not plan to use it.

In Table IV, LARC use was significantly associated with both the respondent's age (χ^2=39.782, p=0.000) and the husband's age (χ^2=34.385, p=0.000) with higher use observed in older age groups. However, no significant associations were found between LARC use and the respondent's education (χ^2=1.574, p=0.455) husband's education (χ^2=3.055, p=0.217) family income (χ^2=0.938, p=0.816) age at marriage (χ^2=0.319, p=0.572) or age at first childbirth (χ^2=0.000, p=1.000).

Table I Socio-demographic profile (n=196)

Characteristics		Frequency (n)	Percent (%)
Age groups (In years)	18-25	66	33.7
	26-33	94	48.0
	34-41	31	15.8
	≥42	5	2.6
	Mean±SD		28.4±5.4
Respondent husband's age distribution (In years)	18-25	2	1.0
	26-33	76	38.8
	34-41	83	42.3
	≥42	35	17.9
	Mean±SD		36.2±6.6
Religion	Mulism	157	80.1
	Hinduism	34	17.3
	Buddhism	5	2.6
Education of the respondents	Illiterate	33	16.8
	Upto secondary	119	60.7
	Above secondary	44	22.5
Education of the husbands of the respondents	Illiterate	25	12.8
	Upto secondary	98	50.0
	Above secondary	73	37.2
Occupationof the respondents	Housewife	149	76
	Garments Worker	29	14.8
	House Maid	7	3.4
	Business	2	1.0
Occupationof the husbands of the respondents	Day Laborer	101	51.5
	Business	62	31.6
	Job Holder	30	15.3
	Unemployed	3	1.5
Type of family	Nuclear	131	66.8
	Joint	65	33.2
Monthly family income (Taka)	≤10000	12	6.1
	10001-20000	75	38.3
	20001-30000	64	32.7
	>30000	45	22.9
	Mean±SD		19520.4±9051.1

Table II Factors regarding reproductive health (n=196)

Characteristics		Frequency (n)	Percent (%)
Distribution of respondents by current contraceptive use	Oral contraceptive pill	104	53.1
	Condom	44	22.4
	Injection	17	8.7
	IUD	16	8.2
	Implant	15	7.7
Previous contraceptives used by the respondents	Oral contraceptive pill	97	49.5
	Condom	92	46.9
	Injection	7	3.6
Distribution of the respondents by their age at marriage (in years)	<18	31	15.8
	≥18	165	84.2
	Mean±SD		29.0±8.7
Age at first childbirth (In years)	<20	134	68.3
	≥20	62	33.7
	Mean±SD		20.9±2.8
Duration of marital life (in years	<5	51	26.0
	≥5	145	74.0
	Mean±SD		9.8±2.0
Place of their last delivery	Home	81	41.3
	Government Hospital	41	20.9
	Private Hospital	34	17.3
	Community Clinic	24	12.2
	NGO Hospital	16	8.2

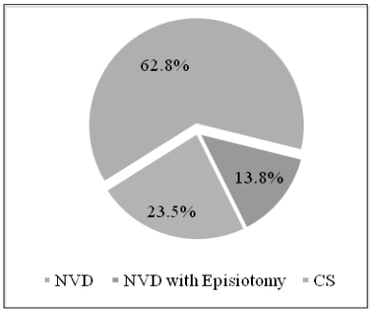

Figure 1 Mode of last delivery (n=196)

Table III Factors regarding knowledge and utilization of LARC (n=196)

Characteristics		Frequency (n)	Percent (%)
Knowledge about LARC	Yes	115	58.7
	No	81	41.3
Respondents' knowledge of LARC types (n=115)	IUDs	51	24.6
	Implants	50	24.2
	Injectables	106	51.2
Decision-maker for contraceptive use	Husband	150	56.6
	Self	108	40.8
	Family member	7	2.6
Respondents' future intention regarding LARC use	Yes	118	59.2
	No	80	40.2

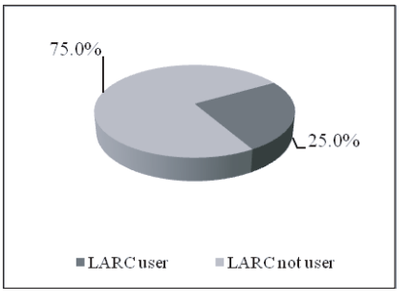

Figure 2 Distribution of the respondents by LARC practices (n=196)

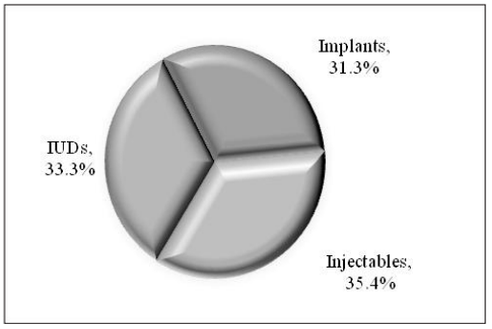

Figure 3 LARC method use among respondents (n=49)

Table IV Factors associated with uses of LARC (n=196)

Traits	LARC uses Yes n(%)	No n(%)	Total n(%)	χ^2 value	p=value
Age groups (In years)					
18-25	3(4.5%)	63(95.5)	66(100)	39.782	*0.000
26-33	24(25.5)	70(74.5)	94(100)		
34-41	19(61.3)	12(38.7)	31(100)		
≥42	3(60.0)	2(40.0)	5(100)		
Respondent husband's age distribution (in years)					
18-25	0(0.0)	2(100)	2(100)	34.385	*0.000
26-33	5(6.6)	71(93.4)	76(100)		
34-41	24(28.9)	59(71.1)	83(100)		
≥42	20(57.1)	15(42.9)	35(100)		
Education of the respondents Illiterate	8(24.2)	25(75.8)	33(100)	1.574	0.455
Upto secondary	33(27.7)	86(72.3)	119(100)		
Above secondary	8(18.2)	36(81.8)	44(100)		
Education of the husbands of the respondents					
Illiterate	9(36.0)	16(64.0)	25(100)	3.055	0.217
Upto secondary	26(26.5)	72(73.5)	98(100)		
Above secondary	14(19.2)	59(80.8)	73(100)		
Monthly family income (Taka)					
≤10000	3(25.0)	9(75.0)	12(100)	0.938	0.816
10001-20000	19(25.3)	56(74.7)	75(100)		
20001-30000	18(28.1)	46(71.9)	64(100)		
>30000	9(20.0)	36(80.0)	45(100)		

Traits	LARC uses Yes n(%)	No n(%)	Total n(%)	χ^2 value	p=value
Distribution of the respondents by their age at marriage (In years)					
<18 years	9(29.0)	22(71.0)	31(100)	0.319	0.572
≥18 years	40(24.2)	125(75.8)	165(100)		
Age at first childbirth (in years)					
<20 years	33(25.4)	97(74.6)	130(100)	0.000	1.000
≥20 years	16(24.2)	50(75.8)	66(100)		

p<0.05 considered as statistically significant value.

Discussion

In the present study, the mean age of the respondents was 28.4 years, with 48% falling within the age group of 26 to 33 years. According to the BDHS 2014, 36% of married women aged 15 to 49 years were within the 23 to 30-year age group.[1] Similarly, a study conducted on long-acting contraceptive users reported a mean age of 30.3 years among women with at least one living child.[23] These findings are relatively consistent with the current study. However, the lower mean age observed in this study may be attributed to the smaller sample size. A significant association was found between the age of the respondents and their husbands in relation to the use of long-acting contraceptives. Both older women and those with older husbands were more likely to use such methods, aligning with the findings of the NIPORT 2013 study.[24] Additionally, the mean age of respondents in another comparable study was 36.22 years, with the majority in the 34 to 41-year age group, closely reflecting the trends observed in the present study.[25]Although previous studies have shown a relation between women's education and contraceptive use, the present study did not find a similar association-likely because a large portion (33%) of respondents had only secondary-level education.[3] The mean monthly family income of the respondents was 19,520.4 taka, with 38.3% of families falling within the same income range. However, no significant association was found between income and LARC use in this study, unlike the findings of previous global and regional studies.

In this study, the mean duration of marriage was 9.8 years. About 37.2% of respondents had been married for over 10 years, while 36% had been. married for 6–10 years. According to NIPORT data, longer marital duration was associated with greater use of long-acting contraceptive methods.[24]Another studies also found that women in shorter marriages tend to prefer short-acting contraceptives, while those married longer are more likely to use LARC.[5,26]

According to BDHS 2014, the national contraceptive prevalence rate among married women aged 15–49 years is 62.1%, with 54% using modern family planning methods. Oral Contraceptive Pills (OCPs) and condoms are the most commonly used methods, followed by injectables.[1] In contrast, the current study found a higher usage rate of modern methods at 81.2%, likely due to the smaller sample size and the study being limited to a specific area. The most commonly used methods were OCPs (45.2%) and condoms (28.0%), followed by injectables (10.8%) differing slightly from national data.

A previous study found that women who had institutional deliveries, particularly by Caesarean section, tended to delay the birth of their next child and were more likely to use long-term contraceptive methods.[11] However, the present study did not find a similar association. The mode of delivery-whether Caesarean or otherwise-was not significantly related to LARC use among respondents. In fact, most respondents had delivered their last child at home. Although the majority delivered at home, LARC use was relatively higher in this group, likely due to home visits by both government and private health workers.[27]

About 58.7% of respondents were aware of LARC, with injectables being the most commonly known method (51.2%) followed by IUDs (24.6%) and implants (24.2%). Figure 2 shows that 25% of respondents used LARC, while 75% did not. Among users (Figure 3) 35.4% used injectables, 33.3% used IUDs and 31.3% used implants. Contraceptive decisions were primarily made by husbands (56.6%) while 40.8% of respondents made the decisions themselves. Additionally, 59.2% expressed an intention to use LARC in the future. There was a significant association between LARC use and both the respondent's age (χ^2=39.782, p=0.000) and the husband's age (χ^2=34.385, p=0.000), with higher

usage observed among older age groups. However, no significant association was found between LARC use and factors such as education level, family income, age at marriage, or age at first childbirth. Study in Latin America found thatmajority knew about LARC, injectables were most recognized. Usage linked to age, not education or income. Husbands influenced decisions significantly.[28]

Limitation

The current study was a time framed as well as cross sectional study.

Conclusion

In conclusion, the study provides valuable insights into the demographic and contraceptive practices of respondents. The majority were in the young age group. While oral contraceptive pills were the most commonly used method, knowledge of LARC was also prevalent among respondents, with 58.7% aware of long-acting reversible contraceptive methods. A significant association was found between LARC use and the ages of both respondents and their husbands. However, no significant associations were observed with education level, family income, age at marriage, or age at first childbirth. Future use of LARC was high, indicating potential for increased adoption.

Recommendations

It is recommended to enhance awareness and access to LARC methods, particularly injectables, through community health workers. Efforts should also focus on educating both respondents and their husbands, given the influence of husband's age on contraceptive decisions. Additionally, strategies to address the barriers to LARC use, such as misconceptions, should be prioritized.

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Contribution of authors

TUA-Acquisition of data, data analysis, drafting and final approval.

MN-Conception, design, critical revision and final approval.

MAH-Interpretation of data, critical revision and final approval.

AB-Data analysis, critical revision and final approval.

Disclosure

All the authors declared no competing interests.

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