Original Article

A Hospital-Based Study on the Causes of Menstrual Regulation and Illegal Abortion Among Rural Women in Barishal, Bangladesh

***Asma-Ul-Husna[1], Sharmin Mostary[2], Hanna Bintea Ahsan[3], Md. Shyful Islam Rony[4], Alfa Mansura[5]**

Abstract

Background: Menstrual regulation (MR) and illegal abortion remain critical public health issues in Bangladesh, particularly among rural women who face systemic barriers to reproductive healthcare. **Objective:** This study aimed to investigate the causes, contextual factors, and clinical characteristics surrounding MR and illegal abortion among rural women in Barishal, Bangladesh. **Methods:** A descriptive cross-sectional study was conducted among 88 rural women who sought MR or illegal abortion services at the Marie Stopes Clinic in Barisal between July and December 2024. Data were collected through structured face-to-face interviews and clinical record reviews. Variables included sociodemographic characteristics, reproductive history, contraceptive use, reasons for seeking MR/abortion, legal awareness, procedural details, complications, and decision-making dynamics. Chi-square tests were used to determine associations between key variables. **Results:** Most participants were young (37.5% aged 20–24), married (90.9%), and had low educational attainment (56.8% had no formal or only primary education). Only 29.5% had used contraception prior to pregnancy, with lack of awareness cited as the main reason for non-use. The leading cause for seeking MR or illegal abortion was unintended pregnancy (42%), followed by economic hardship (25%) and partner/family pressure (17%). Most procedures were performed within 8 weeks of gestation (64.7%), with medical methods being more common (54.5%). Post-procedural complications were reported by 18.2% of respondents, particularly among those who underwent the procedure after 8 weeks ($p = 0.013$). Legal awareness of MR was low (31.8%), and significantly associated with higher educational levels ($p = 0.002$). In most cases, reproductive decisions were made by partners or family members (63.6%), and only 39.8% of women received counseling prior to the procedure. **Conclusion:** The findings highlight major gaps in contraceptive awareness, legal literacy, and reproductive autonomy among rural women in Barishal. Despite the formal provision of MR services in Bangladesh, many women remain uninformed or are influenced by external pressures. Targeted interventions—including educational outreach, enhanced counseling services, and community engagement—are urgently needed to empower women and ensure safer reproductive health outcomes.

Keywords: Menstrual regulation, illegal abortion, rural women, Bangladesh, reproductive health, legal awareness, contraception.

1. Assistant Professor, Forensic Medicine and Toxicology, South Apollo Medical College and Hospital, Barishal, Bangladesh.
2. Assistant Professor, Enam Medical College, Savar, Dhaka, Bangladesh.
3. Assistant Professor, President Abdul Hamid Medical College, Kishoregonj, Bangladesh.
4. Associate Professor (CC) and Head, Forensic Medicine and Toxicology, Brahmanbaria Medical College, Brahmanbaria, Bangladesh.
5. Assistant Professor, Forensic Medicine and Toxicology, City Medical College and Hospital, Gazipur, Bangladesh.

***Address of Correspondence:** Dr. Asma-Ul-Husna, Assistant Professor, Dept. of Forensic Medicine and Toxicology, South Apollo Medical College and Hospital, Barishal, Bangladesh. Email: dr.asmaul14@gmail.com.

Introduction

In many developing nations, abortion remains a major contributor to maternal morbidity and mortality, particularly when conducted in unsafe conditions [1]. Between 2010 and 2014, approximately 55.9 million abortions were performed globally each year, with a significant 88% occurring in developing countries [2]. During the same period, the proportion of abortions in developing regions rose from 76% (1990–1994) to 88% (2010–2014), and nearly half of these procedures were considered unsafe [2-3]. Countries with restrictive abortion laws—where termination is permitted only to save the life of the woman—tend to experience higher rates of unsafe abortions, complications, and related deaths [2, 4, 5]. Beyond health risks, abortion also imposes considerable socio-economic and psychological burdens on affected individuals and families [5].

In Bangladesh, abortion is legally restricted and is only allowed when necessary to save a woman's life [6]. Despite notable progress in reducing overall maternal mortality over the past two decades, abortion-related deaths and complications continue to pose a significant public health challenge [5]. Between 2010 and 2016, both the number of abortions and the proportion of abortion-related maternal deaths in Bangladesh increased [2, 7, 9]. Specifically, the abortion ratio (abortions per 100 live births) rose from 18 in 2010 to 35.5 in 2014, while the share of maternal deaths attributed to abortion grew from 1% in 2010 to 7% in 2016 [7–9]. In 2014 alone, around 1.19 million induced abortions occurred in Bangladesh, most of which were performed in unsafe environments without the supervision of skilled healthcare personnel. These procedures often led to serious complications such as incomplete abortion, hemorrhage, cervical trauma, sepsis, uterine perforation, bladder injury, and even shock [10, 11]. Although abortion is legally restricted, Bangladesh has been offering menstrual regulation (MR) services since gaining independence. In 1979, MR was incorporated into the national family planning program, allowing trained doctors, paramedics, and family welfare visitors (FWVs) to provide services through government facilities and approved private institutions. Officially, MR is defined as "the regulation of menstruation when menstruation is absent for a short duration," with this period being interpreted as up to 12 weeks from the last menstrual period if administered by a physician, and up to 10 weeks if performed by a FWV, who operates at the community level [12, 13]. To enhance access to MR services, the Government of Bangladesh has implemented several initiatives. These include training mid-level providers such as nurses and midwives, expanding the MR workforce, offering services free of charge, extending the allowable period for MR, establishing national guidelines to standardize service delivery and quality, and introducing medication-based MR options [11, 14, 15]. Nevertheless, recent facility-based studies and surveys of healthcare providers suggest that while the rate of MR services has declined, the rate of abortions has increased [7, 14]. However, these surveys may underestimate the actual prevalence of MR due to underreporting by providers who avoid documenting procedures that do not align with government guidelines [7, 16, 17]. Additionally, MR often occurs outside formal health systems, including through self-management or by untrained individuals, as a result of social stigma or denial of services from official facilities [16, 18].

Methodology

This research was conducted as a descriptive cross-sectional study aimed at identifying and analyzing the underlying causes prompting rural women to seek menstrual regulation

(MR) or undergo illegal abortion. Additionally, the study explored various sociodemographic and contextual factors contributing to these reproductive decisions. The study was carried out among rural women from different regions of Barisal District, Bangladesh. Data were collected exclusively from the Marie Stopes Clinic in Barisal, a specialized reproductive health facility that provides services to a large number of rural women. The data collection period spanned six months, from July to December 2024. The study population included rural women who presented at the Marie Stopes Clinic for either menstrual regulation or illegal abortion procedures during the specified timeframe. A total of 88 women were selected for inclusion based on specific eligibility criteria. Participants were eligible if they were residents of rural areas in the Barisal District, had undergone MR or an illegal abortion at the clinic, and provided informed consent to participate. Women who were unwilling or unable to provide consent, those with spontaneous miscarriages without any induced intervention, or those with incomplete or missing records were excluded from the study. Data were gathered using a structured and pre-tested questionnaire administered through face-to-face interviews and supplemented by reviews of clinical records. Interviews were conducted by trained healthcare personnel under the close supervision of the research team. The questionnaire collected detailed information on participants' sociodemographic profiles such as age, marital status, educational attainment, occupation, and number of children. It also documented reproductive history including contraceptive use, previous MR or abortion history, and birth spacing. The participants were asked about the specific reasons for seeking MR or abortion, such as unplanned pregnancy, financial difficulties, family or partner pressure, social stigma, or health-related concerns. Additional sections covered the type and timing of the procedure, awareness of legal status and safety, and any post-procedural complications or follow-up visits. All interviews were conducted in a confidential setting to ensure privacy and uphold ethical standards. Written informed consent was obtained from each participant after a thorough explanation of the study's objectives, procedures, and confidentiality assurances. Anonymity was maintained by assigning unique codes to each respondent, and all data were securely stored and used solely for this research.

Results

Table I. Sociodemographic characteristics of participants (n=88).

Variables	Catagories	Frequency n (%)
Age (year)	<20	12 (13.6)
	20–24	33 (37.5)
	25–29	23 (26.1)
	≥30	20 (22.8)
Marital status	Married	80 (90.9)
	Unmarried	8 (9.1)
Educational level	No formal education	26 (29.5)
	Primary	24 (27.3)
	Secondary	23 (26.1)
	Higher secondary+	15 (17.1)
Occupation	Housewife	61 (69.3)
	Garment/Day labor	12 (13.6)
	Service/Business	8 (9.1)
	Student	7 (8)

Table 1 illustrates that most participants were young women aged 20–24 years (37.5%), predominantly married (90.9%), and a majority had low educational attainment, with nearly 57% having no formal or only primary education.

Table II. Reproductive History and Contraceptive use (n=88).

Variables	Catagories	Frequency n (%)
Number of Children	0	15 (17)
	1	26 (29.6)
	2–3	47 (53.4)
Contraceptive use	Yes	26 (29.5)
	No	62 (70.5)
Reason for not using	Lack of awareness	36 (41)
	Partner refusal	12 (13.6)
	Fear of side effects	10 (11.4)
	Religious/cultural	4 (4.5)

Table 2 shows that over half of respondents had 2–3 children (53.4%), but only 29.5% reported using contraception before pregnancy, with lack of awareness being the main reason for non-use.

Table III. Reported reasons for MR or illegal abortion (n=88).

Reason	Frequency n (%)
Unintended pregnancy	37 (42)
Financial/economic constraints	22 (25)
Family or partner pressure	15 (17)
Health-related reasons	8 (9.1)
Fear of social stigma	6 (6.8)

As detailed in Table 3, unintended pregnancy was the leading cause for seeking menstrual regulation or illegal abortion (42%), followed by economic hardship (25%) and family/partner pressure (17%).

Table 4 summarizes key clinical and contextual factors surrounding menstrual regulation or abortion among respondents. A majority of procedures were done within 8 weeks (64.7%), mostly through medical methods (54.5%). Legal awareness was low (31.8%), and around 18.2% reported complications such as bleeding or pain. Only 27.3% had a prior MR/abortion history, and just 39.8% received counseling. In nearly half of the cases (44.3%), the husband or partner made the abortion decision, highlighting a significant influence of partner or family input.

Table VI. Procedural details, awareness, and associated factors of MR/abortion (n = 88).

Variables	Catagories	Frequency n (%)
Gestational age	≤8 weeks	57 (64.7)
	>8 weeks	31 (35.3)
Type of procedure	Medical	48 (54.5)
	Surgical	40 (45.5)
Aware of legal status	Yes	28 (31.8)
	No	60 (68.2)
Post-abortion complications	Yes	16 (18.2)
	No	72 (81.8)
Previous MR/abortion	Yes	24 (27.3)
	No	64 (72.7)
Counseling received	Yes	35 (39.8)
	No	53 (60.2)
Decision maker	Self	32 (36.4)
	Husband/Partner	39 (44.3)
	Parents/In-laws	17 (19.3)

Table 5 demontrates a significant association (p = 0.002) was observed, where women with higher education were more likely to be aware of the legal status of MR/abortion. Those undergoing procedures after 8 weeks had significantly more complications (p = 0.013), emphasizing the importance of early access to services.

Discussion

This study offers critical insights into the sociodemographic profile, reproductive patterns, procedural characteristics, and legal awareness among women who underwent menstrual regulation (MR) or illegal abortion in Bangladesh. The findings reveal multiple layers of socio-cultural and health system barriers that continue to influence women's reproductive choices and health outcomes. A majority of participants were young (20–24 years) and married, consistent with national fertility trends indicating early marriage and childbear-

Table V. Association Between Key Variables and Outcomes (Chi-Square Test Results, n = 88).

Association	Category	Aware/ Complication	Not aware/ no complication	Total (n)	X^2 (df)	*p* value
Education Level vs. Legal Awareness	No formal education	3	23	26	14.62 (3)	0.002
	Primary	5	19	24		
	Secondary	10	13	23		
	Higher secondary or more	10	5	15		
	Total	28	60	88		
Gestational age vs Post-abortion complications	≤8 weeks	6	51	57	6.13 (1)	0.013
	>8 weeks	10	21	31		
	Total	16	72	88		

ing among Bangladeshi women [5]. Educational attainment was generally low, with over half having no formal or only primary education—an important determinant of health literacy, decision-making autonomy, and access to reproductive health services. Notably, nearly 70% of the women were housewives, reflecting limited economic independence, which may further restrict their capacity to make informed reproductive choices. Contraceptive non-use was remarkably high (70.5%), primarily due to lack of awareness. This finding mirrors reports from the Bangladesh Demographic and Health Survey (BDHS 2017–18), which identified knowledge gaps and fear of side effects as major deterrents to contraceptive uptake [17]. Such unmet contraceptive needs directly contributed to unintended pregnancies—the most cited reason (42%) for seeking MR or abortion in this study. Economic hardship (25%) and partner or family pressure (17%) also significantly influenced decisions to terminate pregnancies, highlighting the complex interplay of personal, financial, and relational factors. Clinical findings underscore the preference for early abortion, with 64.7% of procedures performed within eight weeks of gestation. This is a positive indicator, as early intervention is associated with fewer complications. Medical abortion was slightly more common (54.5%) than surgical methods, in line with WHO recommendations favoring medical approaches up to 9 weeks of gestation [18]. Nonetheless, 18.2% of women reported post-procedural complications, primarily among those who presented after 8 weeks—a statistically significant association ($p = 0.013$). This affirms the risks of delayed abortion and underscores the need for timely access to safe services.

Alarmingly, only 31.8% of participants were aware of the legal status of MR in Bangladesh, despite its long-standing provision under the national reproductive health program. The association between educational level and legal awareness was significant ($p = 0.002$), emphasizing education as a key enabler of reproductive rights. This aligns with findings from a study by Ramirez et al, 2024 which reported that women with secondary or higher education were more likely to understand the legality and availability of MR services [19]. Pre-procedural counseling was received by fewer than half the participants (39.8%), despite its proven benefits in reducing anxiety, improving informed consent, and enhancing safety [7, 8]. Additionally, the fact that partners or family members decided the majority of cases (63.6%) points to a lack of agency among women regarding their repro-

ductive health—a pattern noted in other South Asian contexts as well [5]. Together, these findings highlight persistent gaps in contraceptive education, legal awareness, and women's autonomy. Despite the availability of MR services in Bangladesh, socio-cultural norms, misinformation, and limited access continue to drive unsafe or uninformed abortions. Programs aiming to improve reproductive health must prioritize community-based awareness campaigns, strengthen counseling services, and promote female education to ensure women can make safe, informed reproductive choices.

Conclusion

This study highlights critical gaps in reproductive health awareness, autonomy, and service accessibility among rural women in Barisal, Bangladesh. Unintended pregnancy, financial hardship, and partner or family pressure were primary drivers of MR or illegal abortion. Low contraceptive use, limited legal awareness, and inadequate counseling reflect systemic shortcomings. Significant associations between education and legal knowledge, and between gestational age and complications, emphasize the need for timely, informed interventions. Expanding reproductive education, improving access to safe, early MR services, and empowering women in decision-making are essential steps to reducing preventable complications and promoting reproductive rights in rural communities.

References

1. Cameron S, Glasier A, Lohr PA, Moreau C, Munk-Olsen T, Oppengaard KS, et al. Induced abortion. Hum Reprod. 2017;32:1160–1169. doi: 10.1093/humrep/dex071.
2. Singh S, Remez L, Sedgh G, Kwok L, Onda T. Abortion worldwide 2017: uneven Progress and unequal access. New York; 2018.
3. Ganatra B, Gerdts C, Rossier C, Johnson BR, Tunçalp Ö, Assifi A, et al. Global, regional, and subregional classification of abortions by safety, 2010–14: estimates from a Bayesian hierarchical model. Lancet. 2017;390:2372–2381. doi: 10.1016/S0140-6736(17)31794-4.
4. Chae S, Desai S, Crowell M, Sedgh G, Singh S. Characteristics of women obtaining induced abortions in selected low- and middle-income countries. PLoS One. 2017;12:1–19. doi: 10.1371/journal.pone.0172976.
5. El Arifeen S, Hill K, Ahsan KZ, Jamil K, Nahar Q, Streatfield PK. Maternal mortality in Bangladesh: a countdown to 2015 country case study. Lancet. 2014;384:1366–1374. doi: 10.1016/S0140-6736(14)60955-7.
6. Government of the People's Republic of Bangladesh. Bangladesh: Penal Code. Bangladesh; 1860.
7. Singh S, Hossain A, Maddow-Zimet I, Vlassoff M, Bhuiyan HU, Ingerick M. The incidence of menstrual regulation procedures and abortion in Bangladesh, 2014. Int Perspect Sex Reprod Health. 2017;43:1–11. doi: 10.1363/43e2417.
8. Singh S, Hossain A, Maddow-Zimet I, Bhuiyan HU, Vlassoff M, Hussain R. The incidence of menstrual regulation procedures and abortion in Bangladesh, 2010. Int Perspect Sex Reprod Health. 2012;38:122–132. doi: 10.1363/3812212.
9. National Institute of Population Research and Training; International Centre for Diarrhoeal Disease Research and MEASURE Evaluation. Bangladesh Maternal Mortality and Health Care Survey 2016: Preliminary report. Dhaka; 2017.
10. Bangladesh Bureau of Statistics. Bangladesh Population and Housing Census 2011: Urban Area Report. Dhaka; 2014.
11. Hossain A, Maddow-Zimet I, Ingerick M, Bhuiyan HU, Vlassoff M, Singh S. Access to and quality of menstrual regulation and Postabortion Care in Bangladesh: evidence from a survey of health facilities, 2014. New York; 2017.
12. Directorate General of Family Planning. Bangladesh National Menstrual Regulation Service Guidelines 2014. Dhaka; 2014.
13. Government of the People's Republic of Bangladesh. Memo No. 5–14/MCH-FP/Trg. 79. Dhaka; 1979.
14. Guttmacher Institute. Fact sheet: menstrual regulation and induced abortion in Bangladesh. New York; 2012.
15. Benson J, Andersen K, Samandari G. Reductions in abortion-related mortality following policy reform: evidence from Romania, South Africa and Bangladesh. Reprod Health. 2011;8:1–12.
16. Chowdhury SNM, Moni D. A situation analysis of the menstrual regulation programme in Bangladesh. Reprod Health Matters. 2004;12:95–104. doi: 10.1016/S0968-8080(04)24020-4.
17. National Institute of Population Research and Training (NIPORT), Mitra and Associates, ICF International. Bangladesh Demographic and Health Survey 2017–18. Dhaka (BD): NIPORT and ICF; 2020.
18. World Health Organization. Clinical practice handbook for quality abortion care. Geneva: World Health Organization; 2022.
19. Ramirez AM, Tabassum T, Filippa S, Katz A, Chowdhury R, Bercu C, et al. Clients' expectations and experiences with providers of menstrual regulation: a qualitative study in Bangladesh. BMC Women S Health. 2024 May 16;24(1).