

Menstrual Regulation Practices in Bangladesh: An Unrecognized Form of Contraception

*Unwanted pregnancy continues to be a major health problem
in Bangladesh, despite the fact that there has been a steady increase
in the contraceptive use rate over the last two decades.*

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Menstrual regulation (MR) refers to any chemical, mechanical or surgical process used to induce menstruation and thus to establish non-pregnancy either at the time of, or within a few weeks of, the due date of the menstruation (Population Information Programme, 1973; Tietze and Murstein, 1975; Dixon-Muller, 1988). It involves the vacuum aspiration of the uterine lining and is usually done within few weeks (preferably eight weeks or less) following a missed menstrual period.

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The idea of “removing menstrual irregularity” or “bringing on the period” – as oppose to abortion – is widespread in many cultures (Newman, 1985; Dixon-Muller, 1988). Whether MR is a deliberate substitution for abortion or is simply perceived as a means of ensuing a “healthy” or “non-pregnant” state depends in part on the perception in different cultures of the possible causes of a delayed menstruation. The ambiguity surrounding a late menstrual period can also be an effective and politically acceptable way for a Government to offer MR services as a health measures where abortion is legally restricted or prohibited. MR thus occupies a legal gray area that could offer significant possibilities for expanded reproductive health services in countries where abortion is currently restricted or prohibited.

In Bangladesh, induced abortion is illegal except to save the life of a woman. However, in the mid-1970s, the Government of Bangladesh declared MR as an “interim method of establishing non-pregnancy” for a woman at risk of being pregnant, whether or not she is truly pregnant (Ali, Zahir and Hassan, 1978:31). MR is, therefore, not regulated by the Penal Code restricting abortion in the country. As part of the Government’s health and family planning effort, this policy regarding MR services as a means of reducing female morbidity and mortality associated with indigenous abortion has profound implications for women’s reproductive health. The practice of dangerous, illegal abortions – either self-induced or performed by mostly untrained indigenous practitioners – is widespread in the country (Dixon-Muller, 1988; Measham and others, 1981).

In Bangladesh, MRs are performed by a trained paramedic or doctor within eight to ten weeks of a missed menstrual period or within eight weeks of gestation by a hand-held syringe or electric aspiration machines without any pregnancy test. But practitioners must examine the woman physically to make sure she does not have an advanced pregnancy, that is, not more than eight weeks since the onset of her last menstruation. However, there is no guarantee of such complete compliance of MR procedures regarding the use of trained MR providers or duration of pregnancy. Several authors have suggested that with the promotion of MR services, many abortions are performed under the mantle of MR to avoid legal controversy (Akter and Rider, 1983; Piet-Pelon, 1998). Besides, many untrained traditional practitioners or poorly trained personnel are also providing services in unhygienic conditions increasing the risk of reproductive morbidity and mortality (Rob, Islam and Chakroborty, 2002). MR services are available throughout the country in the government health facilities and are primarily performed by trained paramedics known as Family Welfare Visitors (FWV). In addition to the government facilities, a limited number of NGO clinics also provide such services.

Available records from hospitals and clinics suggest a rising trend in MR and abortion, which is supposed to decline as contraceptive use becomes more widespread and as users attain proficiency in method use. It is hypothesized that the increasing use of MR services are partly due to the decline in desired family size and also to poor use-effectiveness resulting in high failure and discontinuation rates of modern contraceptive methods. In this respect, it is important to investigate the reasons for MR acceptance and issues related to service delivery.

According to the 1999-2000 Bangladesh Demographic and Health Survey, 33 per cent of women in union reported that their most recent pregnancy (in the five years preceding the survey) was unintended (Mitra and others, 2001). While it is most likely that the level of unintended pregnancy decreases with the increased use of family planning methods, it has risen in recent years in Bangladesh. Most cases of unintended pregnancies arise from contraceptive non-use, misuse and method failure (Forrest, 1994; Adetunji, 1997; Bongaarts, 1997). Unintended pregnancies are more likely to result in unsafe abortion or MR and low birth weight (Bitto and others, 1997; Eggleston, 1997; Gase, 1996; Kost, Landry and Darroch, 1998; Forrest, 1994). The level of unintended pregnancy also can serve as an indicator of the state of women's reproductive health and of their degree of autonomy in determining whether and when to bear children. Therefore, it is evident that women's needs are not sufficiently met by the family planning programme. The question that has a direct relevance to the programme is the level of demand for pregnancy termination in Bangladesh. Several small studies collected information on the subject but it is extremely difficult to determine the magnitude and frequency of pregnancy termination based on existing information (Ahmed and others, 1996; Caldwell and others, 1997; Hossain, Kamal and Akhter, 1997). There is a great need to understand the role of pregnancy termination in family formation, so that the family planning programme can reach those women more effectively.

The paper examines the knowledge and attitude towards MR practice and analyses the characteristics of MR users in Bangladesh, using both quantitative and qualitative data. It also analyses the contraceptive use behaviour of the MR users and underlies reasons for accepting the method. The findings of the study are expected to have important policy relevance in Bangladesh and other developing countries where pregnancy termination is widely practised. Understanding the reasons for MR acceptance and its demographic impact will assist policy makers to take appropriate steps to reduce unsafe abortion, which will decrease maternal morbidity and mortality.

Data and methodology

The study utilizes both qualitative and quantitative data. The major source of quantitative data is the 1999-2000 Bangladesh Demographic and Health Survey (BDHS). The 1999-2000 BDHS collected information on respondents' background characteristics, pregnancy history and their outcomes, contraceptive use history, marriage and fertility preferences. Information on knowledge and ever use of menstrual regulation (MR) as well as types of last pregnancy termination were also collected through a nationally representative sample of 10,544 ever-married women of age 15-49, of which 9,720 were currently married. Among the 9,720 currently married women, 367 had ever accepted MR services during the five years preceding the survey. This constituted the authors' study population.

Apart from the 1999-2000 BDHS, a qualitative survey on MR acceptors was conducted to complement the quantitative findings of the BDHS. This complementation of qualitative and quantitative methods ensures a more comprehensive analysis and maximizes the information and quality of the data, reducing also the chances of bias. The major objective of the qualitative survey was to understand the dynamics of MR acceptance, such as knowledge, attitude and timing of MR and the reasons and decision-making process of MR acceptance. The qualitative survey was independent of the 1999-2000 BDHS.

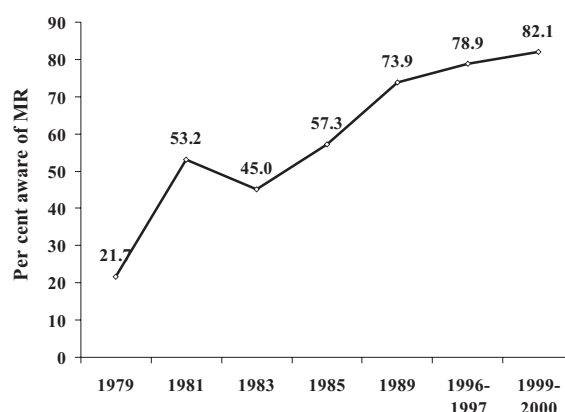
Qualitative information was collected through in-depth interviews and focus group discussions (FGDs). The FGDs and in-depth interviews were conducted in two selected rural and two urban areas in March and April 2002. The two selected rural areas are Gazipur upazilla (subdistrict) of Gazipur district under Dhaka division and Dumuria upazila of Khulna district under Khulna division, while the two selected urban areas were located in Dhaka and Khulna metropolitan areas. FGDs were arranged with the help of service providers (mainly FWV) working in the areas. The service providers were requested to identify MR acceptors who had used MR in the recent past. In each area, seven to nine MR acceptors of different age groups were selected to participate in the FGDs. The research team also conducted in-depth interviews on ten selected MR acceptors from each area and interviewed them either at home or at the clinic. The service providers of the respective areas helped to identify the acceptors for the in-depth interviews as well. Although 40 MR acceptors were interviewed, two interviews had to be discarded owing to the poor quality of the initial tape recording, leaving 38 in-depth interviews for detailed analysis. Trained female sociologists were involved in conducting the in-depth interviews and FGDs.

Findings

Knowledge of MR

Figure 1 presents time series data on knowledge about MR among currently married women of reproductive age from 1979 to 1999-2000. The data were obtained from the Contraceptive Prevalence Surveys (CPSs) and the successive BDHSs. A very high knowledge about MR in recent years is evident among the currently married women, as 82 per cent of the women ever heard of MR in 1999-2000. There is an increasing trend in knowledge of MR. For example, the knowledge has increased from 22 per cent in 1979 to 82 per cent in 1999-2000.

Figure 1. Knowledge of MR in Bangladesh, 1979 -2000



Sources: 1979, 1981, 1983, 1985 and 1989 CPSs, 1996-1997 and 1999-2000 BDHSs.

As expected, the knowledge about MR is more prevalent among MR acceptors. More than nine in ten (92 per cent) MR acceptors who participated in in-depth interviews were reported to have prior knowledge about the procedure (table 1). Most women received the information from family planning field workers (45 per cent), relative/friends (42 per cent) or other MR acceptors (24 per cent). The role of the mass media as a source of information about MR appears to be insignificant (2.6 per cent). Although, Bangladesh has an extensive network of domiciliary health and family planning services through a large number of female field workers, it was surprising that a large number of women learned about the procedure from relatives/friends or MR acceptors. There is no doubt that the informal network plays a very important role in providing information about MR services.

Most of the MR acceptors (92 per cent) were not able to make any distinction between MR and abortion. According to MR acceptors, both the terms refer to pregnancy termination. Participants in the FGDs also held similar views. The respondents mentioned several closely associated Bengali terms for MR or abortion such as “*pete fela*”, “*baccha fela*” or “*baccha nausto kora*” meaning “washing out the uterus” or “cleaning the period”. All of those terms refer to destroying the foetus. This indicates that in most cases, pregnancy termination was done under the name of MR, while MR appeared to be an unrecognized fertility control measure that women employed to terminate an unwanted pregnancy.

Table 1. Knowledge about MR and abortion among participants in the in-depth interviews

Knowledge about MR/abortion and timing of MR	Percentage (n = 38)
Ever heard about MR	
Yes	92.1
No	7.9
Source of information	
Radio/TV	2.6
Family Planning workers	44.7
Doctor	5.3
Relatives/Friends	42.1
MR acceptors	23.7
Know difference between MR and abortion	
Yes	7.9
No	92.1
Duration of pregnancy when MR can be performed?	
≤ 8 weeks	58.0
9-11 weeks	29.0
Do not know	13.0
Duration of pregnancy when MR was done	
< 6 week	13.2
6-8 week	60.5
9-11 week	21.1
12 +	5.3
Mean duration of pregnancy at the time of MR (in week)	8.0

MR within 8 weeks of gestation is prescribed as most safe. This was known by more than half (58 per cent) of MR acceptors. More than one in ten (13 per cent) MR acceptors did not have any idea about the duration of pregnancy when MR can be performed, while 29 per cent mentioned that it could be performed between 9 to 11 weeks. When the MR acceptors were asked about their own experience and at what duration of pregnancy they had accepted MR services, nearly two thirds (74 per cent) reported having had MR service within the prescribed eight weeks of gestation. About one fourth (26 per cent) of the MR acceptors had performed MR beyond the prescribed period, which may create reproductive health problems. On average, women had MR services at eight weeks of gestation.

Table 2. Percentage of currently married women who ever accepted MR by age, division and place of residence, BDHS 1999-2000

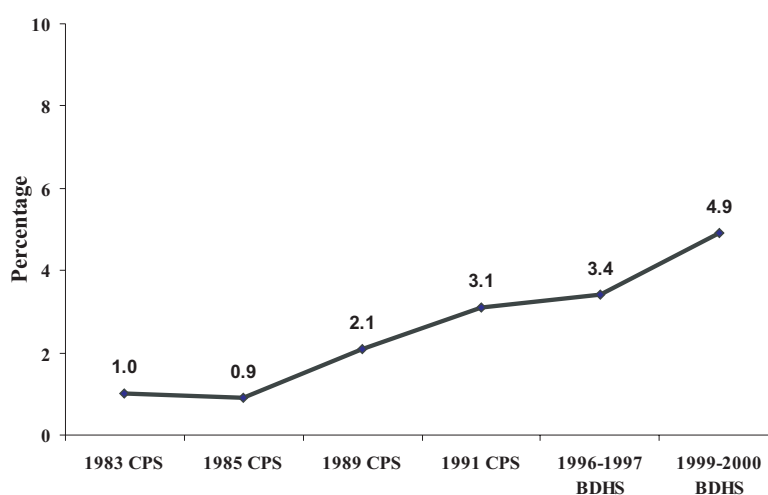
Characteristics	Percentage having ever used MR
Age	
< 20	1.9
20-24	3.8
25-29	5.1
30-34	6.5
35-39	8.4
40-44	6.3
45-49	4.7
Administrative division	
Barisal	6.3
Chittagong	4.2
Dhaka	4.7
Khulna	5.8
Rajshahi	5.3
Sylhet	2.9
Residence	
Urban	9.5
Rural	3.8
Total	4.9
Number	9,720

“Ever used” MR

Table 2 presents the percentage of currently married women who ever had MR services by selected characteristics. Among the currently married women aged 15 to 49, about 5 per cent ever had MR services. Young women aged less than 20, i.e. adolescents were less likely to accept MR services, while women in their late thirties were more likely to accept the services. Women living in the urban areas accepted MR services more frequently than women living in rural areas (9.5 per cent versus 3.8 per cent). Among the six administrative divisions, Barisal shows the highest use rate of MR (6.3 per cent), immediately followed by Khulna (5.8 per cent) and Sylhet division, the latter showing the lowest use rate of MR.

Figure 2 depicts an increasing trend in MR practice in Bangladesh, which rose from only one per cent in 1983 to 5 per cent in 1999-2000. Despite the increased use of family planning methods, the rate of MR is also increasing. The rising trends in MR use may be associated with method failure, which in turn may be related to the incorrect use of the methods. This leads to question of efficacy of the family planning methods used.

Figure 2. Ever used of MR among ever married women during 1983-2000, Bangladesh



Sources: 1983, 1985, 1989 and 1991 CPSs, and 1996-1997 and 1999-2000 BDHSs.

Timing of MR

The timing of MR during the reproductive cycle has an important relevance to fertility, if the couples utilized the procedure for averting an unwanted pregnancy. The age, parity and duration of marriage of a woman at the time of MR are among the most important factors in the decision-making process. Table 3 shows the distribution of women who had accepted MR services by age and the duration of marriage at the time of the procedure. The age and parity of women show a curvilinear relationship with the acceptance of MR. Young women within their twenties or having two children are more likely to accept MR. The average age of MR acceptors was 27 years, while women accepted MR on the average 12 years after the marriage. The average number of children at the time of MR was around three.

Table 3. Percentage distribution of MR acceptors among currently married women during the five years preceding the survey by duration of marriage and number of living children, BDHS 1999-2000

Age at the time of MR		Marital duration at the time of MR		Number of living children at the time of MR	
Age	Per cent	Duration	Per cent	Children	Per cent
<20	15.6	0-4	25.0	1	13.1
20-24	23.6	5-9	19.4	1	20.3
25-30	21.7	10-14	24.4	2	25.6
30-34	19.2	15-19	14.7	3	18.9
35+	20.0	20+	16.4	4	9.7
				5+	11.5
Total	100.0		100.0		100.0
Mean	27.4		11.5		2.4
Number	367		367		367

Gestational age and pregnancy

Table 4 shows the distribution of women who received MR services according to the duration of the gestation. It appears that about 64 per cent of the MR acceptors received MR services within eight weeks of conception. The average gestational duration was 8.1 weeks. About 11 per cent received the services after 12 weeks of conception. This raises a major concern about the proper compliance of the procedure, while also raising a policy-related question: how come did women with 12 or more weeks of gestation not come earlier and how can they be informed about the proper timing to perform MR?

Table 4. Distribution of currently married women who resorted to MR during the five years preceding the survey by duration of pregnancy, BDHS 1999-2000

Duration of pregnancy (in weeks)	Women who had MR	
	Number	Percentage
≤4 weeks	9	2.5
5-8 weeks	225	61.3
9-11 weeks	93	25.3
12+ weeks	40	10.9
Total	367	100

Median duration of pregnancy at the time of MR: 8.1 weeks.

The distribution of the 38 MR acceptors who participated in the in-depth interview by their duration of pregnancy indicates that most women (63 per cent) accepted MR for the third or higher number of pregnancy (table 5). It is also interesting to note that 11 per cent of the MR acceptors received MR services to postpone their first pregnancy while another 26 per cent used the method to postpone their second pregnancy. MR experience at the first or second gravity may be due to the fact that they did not want a child at that moment for financial or other reasons. The following cases illustrate the settings.

Saju (not real name) is 21 years old and her husband is 32. She has been married for seven years and has a daughter. Her husband looks after the family business. She was married at 14. She became pregnant immediately after marriage as they did not use any contraceptive method. She terminated her first pregnancy by MR. Her husband and in-laws had advised her to terminate the pregnancy. Her husband accompanied her to the FWC and FWV performed the procedure. The service provider charged taka 250 (1USD≈60.99Tk). Few days after the procedure she began bleeding continuously. Her husband took her to FWC and MR procedure was repeated. The respondent did not know much about MR before she accepted the procedure. She had heard about MR from her aunt. Till today, she blames herself for accepting MR. She says she did not realize what she was doing as she was young at the time. After the MR she was unable to become pregnant for many years. She thought God had punished her. Currently she is taking oral contraceptive pills and would like another child in the next 5 years.

**Table 5. Distribution of MR acceptors by gravidity:
evidence from in-depth interviews**

Gravidity*	Percentage (N = 38)
1	10.5
2	26.3
3	10.5
4	21.0
5+	31.6
Mean	3.2

* Gravidity is an indicator of pregnancy experience which indicates live births plus fetal deaths.

Characteristics of ever acceptors of MR

Table 6 presents the characteristics of women according to use and non-use status of MR and family planning methods. For comparison purposes, the authors have considered three categories of women: MR acceptors, ever used family planning methods and never used family planning methods or MR. The results indicate that MR acceptors and users of family planning methods are relatively older than non-MR acceptors. The average age of women who ever accepted MR is 29 years compared with 27 years for women who neither accepted MR nor used any contraceptive method. The higher average age of MR acceptors and family planning method users compared with non-acceptors of MR or family planning implies that women usually accept MR procedure or family planning methods at higher ages, once having had the desired number of children. The MR acceptors, on average, had 2.6 living children compared with 2.0 children for non-acceptors of MR or non-users of contraceptive methods. The sex composition of living children shows that the proportion of boys was higher among MR acceptors than among non-acceptors. The desire for no more children was stronger among MR acceptors and family planning users than among non-acceptors of MR or non-users of family planning methods. For example, more than 60 per cent of the MR acceptors or ever user of family planning methods did not want any more children compared with 40 per cent of non-acceptors of MR or non-users of family planning methods. The desired number of children was slightly lower among MR acceptors (2.3 children) compared to non-acceptors of MR or non-users of contraceptive methods (2.7 per cent). This indicates that MR acceptors were more likely to have an unwanted pregnancy than other groups, which necessitated them to seek MR services.

Table 6. Percentage distribution of MR acceptors in the five years preceding the survey, ever user of family planning methods and never users of family planning or MR by selected socio-economic characteristics, BDHS 1999-2000

Characteristics	MR acceptors in the last five years (n = 367)	Ever used family planning methods (n = 7,190)	Neither contraceptive nor MR user (n = 2,163)
Current age			
<20	8.6	13.2	30.8
20-24	21.7	18.8	19.1
25-29	22.5	20.9	13.5
30-34	22.2	17.1	10.1
35 and above	25.0	29.9	26.5
Mean age	29.2	29.8	27.3
Ideal number of children			
2 or less	68.9	63.2	51.9
3	21.7	22.7	22.0
4 or more	9.4	14.1	25.8
Mean ideal number	2.3	2.4	2.7
Number of living children			
0-2	56.1	51.3	68.7
3-4	30.0	32.6	17.5
5 and more	13.9	16.1	13.9
Mean number of livingchildren	2.6	2.7	2.0
Sex composition			
Boy > Girls	40.6	38.6	28.5
Boy = Girls	30.3	26.4	41.9
Boy < Girls	29.2	35.0	24.6
Desire for more children			
Want more	35.6	31.7	56.5
Want no more	61.7	65.8	40.1
Undecided	2.8	2.5	3.7
Women's education			
No schooling	27.5	41.8	54.2
Primary	28.6	30.1	28.4
Secondary and above	43.9	28.1	17.3
Mean year of schooling	5.0	3.8	2.4

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Table 6. (Continued)

Characteristics	MR acceptors in the last five years (n = 367)	Ever used family planning methods (n = 7,190)	Neither contraceptive nor MR user (n = 2,163)
Husband's occupation			
White-collar	44.4	30.2	19.3
others	55.6	69.8	80.7
Work status			
Earn cash	20.3	19.6	12.3
No/not workinh	79.7	80.4	87.7
Wealth index			
Poor	15.0	31.8	44.8
Middle	32.8	36.6	35.3
High	52.2	31.6	19.9
Media exposure			
Yes	66.9	50.8	38.9
No	33.1	49.2	61.1
Women's mobility status			
Yes	80.0	72.8	59.1
No	20.0	27.2	40.9

MR acceptors or ever users of family planning methods were generally better educated than non-acceptors of MR or family planning methods: 44 per cent of the MR acceptors had secondary and above level of education compared with 17 per cent among non-users (table 6). MR acceptors were economically better off than non-acceptors of MR, as more than half (52 per cent) of the MR acceptors had higher wealth indexes compared to 20 per cent among non-acceptors. The husbands of the MR acceptors were more likely to have white-collar jobs than non-acceptors. Besides, women who had accepted MR services were more likely to be engaged in cash earning than their counterparts. Obviously, women working for wages, outside their home, were living under different circumstances, being exposed to different influences, than women who stayed home and carried out traditional duties. Furthermore, MR acceptors had higher autonomy and mass media exposure than the women who had not accepted MR (table 6).

Patterns of contraceptive use by MR acceptors

Table 7 shows the patterns of contraceptive use among MR acceptors and non-acceptors. The contraceptive use rate was substantially higher among MR acceptors than among non-acceptors. About 73 per cent of the women who had received MR services were using contraceptive methods at the time of the survey, compared to 53 per cent of non-acceptors. However, both groups had a similar pattern of method use with oral contraceptive pills being the most widely used method followed by traditional methods. The most striking feature of the contraceptive use behaviour of MR and non-MR acceptors was that MR acceptors were more likely to use condoms, while non-MR acceptors were more likely to use injections, although in most cases they had accepted MR to avoid unwanted pregnancy. This finding may have important policy implications for programme managers. Women seeking MR services can easily be recruited into more effective long-term methods of family planning through motivational programmes.

Table 7. Percentage of women who were currently using family planning methods by MR acceptance status, BDHS 1999-2000

Method	Current use	
	Had MR during last five years (n = 367)	Did not have MR during last five years (n = 4,862)
Any method	73.4	53.1
Pill	33.7	22.7
IUD	3.6	1.6
Injectables	9.9	7.1
Condom	10.1	4.1
Sterilization	1.2	7.4
Traditional	14.9	10.1
No method	26.6	46.9
Total	100	100

The findings presented in table 8 suggest that similarly to the general population, the majority of MR acceptors were using oral pill (29 per cent) before accepting MR, followed by traditional methods (11 per cent) and condom (9 per cent). However, after accepting MR, more than three fourth (79 per cent) accepted family planning methods, most of them using oral pills (40 per cent), followed by traditional methods (13 per cent), condom (12 per cent) and injections (7 per cent). Only one per cent (3 women) accepted sterilization and another 6 per cent IUD.

The percentage of non-users of family planning methods dropped from 49 per cent before accepting MR to 21 per cent after having undergone MR, i.e. more than half (55 per cent) of the non-users of family planning methods before accepting MR became users (of family planning methods) after accepting MR.

Table 8. Percentage distribution of women who received MR services during the five years preceding the survey by method of contraceptive used according to pre- and post-MR experience, BDHS 1999-2000

Method	Use of contraception among MR acceptors	
	Before MR	After MR
Any method	51.4	78.6
Method used		
Pills	28.9	40.0
IUDs	0.6	5.8
Injections	2.8	7.2
Condoms	8.6	11.7
Sterilization	-	0.8
Traditional methods	10.6	13.1
None	48.6	21.4
Total	100.0	100.0
N	367	367

Table 9 presents the distribution of women according to the specific method used during pre- and post-MR acceptance. It is observed that few women who were using contraceptive methods prior to MR acceptance, became non-users after they accepted the procedure. Those who became users from being non-users, in most cases, accepted oral pills (34 per cent), followed by traditional methods (9 per cent), IUD (8 per cent), condom (8 per cent) and injections (5 per cent). A majority of the women who were using family planning methods prior to MR did not switch to another method after the acceptance of MR. For example, 64 per cent of oral pill users continued the method after the procedure. The switching was most evident in the case of IUD and injectables.

It should be noted that a very high post-MR contraceptive use level implies that after having encountered an unwanted pregnancy which was satisfactorily resolved, the women became highly motivated to accept family planning methods. However, the relatively higher rate of oral pills and traditional methods use raises concern about the efficacy of the post-MR contraception.

Table 9. Percentage distribution of post-MR family planning method used by pre-MR family planning method acceptance, BDHS 1999-2000

Pre-MR method used	Post-MR method used							Total (n = 367)
	Pill (n = 144)	IUD (n = 23)	Injection (n = 28)	Condom (n = 44)	Sterilization (n = 3)	Traditional methods (n = 47)	Any method (n = 284)	
Pills	64.4	1.9	9.6	6.7	1.0	6.7	90.4	104
IUDs	50.0	0	0	50.0	0	0	100.0	5
Injections	20.0	10.0	50.0	0	0	0	80.0	10
Condoms	25.8	3.2	3.2	58.1	0	3.2	93.5	31
Traditional methods	15.8	7.9	2.6	5.3	0	60.5	92.1	38
None	34.3	8.0	5.1	8.0	1.1	9.1	65.7	179

Results of the in-depth interview shows that out of 38 MR acceptors, 33 (87 per cent) were using family planning methods, mostly pills, prior to under-going MR procedure (table 10). Such a high rate of contraceptive use by women prior to MR leads to question about the reasons these women experienced such high rates of contraceptive failure. The reason apparently lies in their choice of preventive measures. Before accepting MR, more than half of the acceptors were using either pills (32 per cent) or condoms (29 per cent) while the rest was mostly using traditional methods (24 per cent). Those methods had high failure rates. The findings from the in-depth interviews also suggest that about 82 per cent of the MR acceptors were using a family planning method during their post-MR period with a similar method mix as before the MR operation. However, several MR acceptors switched to more effective methods such as injections and IUDs.

Determinants of MR practice

To identify the factors affecting the use or non-use of MR, the logistic regression model has been fitted with the use of MR as dependent variable by assigning the value 1 if the women ever used MR in last five years preceding the survey or 0 otherwise. The results presented in table 11 indicate that several factors were associated with the acceptance of MR. Women's age, number of living children, women's education, husband's occupation, wealth index, women's mobility, women's employment status, administrative division, place of residence and mass media exposure are among the significant predictors (at 5 per cent) of MR acceptance.

**Table 10. Contraceptive use history of MR acceptors:
evidence from in-depth interviews**

Contraceptive use history	Percentage
Ever used family planning methods before MR	
Pills	31.6
Injections	2.6
IUDs	-
Condoms	28.9
Traditional methods	23.7
None	13.2
Total	100.0
Methods currently using	
Pills	34.2
Injections	15.8
IUDs	10.5
Condoms	10.5
Traditional methods	10.6
None	18.4

The age and number of living children show a significant positive relationship with MR acceptance. Women's level of education is also a strong predictor of acceptance of MR. Women with secondary and above level of education were twice more likely to accept MR than women without any education. The women whose husband has a white-collar job were more likely to accept MR. The women with a higher degree of mobility are also more likely to be MR acceptors compared to those having restricted mobility. In addition, the women who are engaged in cash earning activities are more likely to accept MR than those who are housewives. The household wealth index –proxy measure of women's economic status– shows a significant positive relation with MR acceptance (table 11).

There are significant variations in MR acceptance among the administrative divisions. Compared to women from Dhaka division, residents of Barisal, Khulna and Rajshahi divisions are more likely to accept MR, while the residents from Chittagong and Sylhet are less likely to adopt the method. The latter two divisions are known for their lower level of family planning use and high fertility. Religious conservatism is known to be high in Sylhet and Chittagong which might cause a low use rate of MR in those two divisions. Urban residents are 1.5 times more likely to accept MR compared to rural residents.

Table 11. Multivariate logistic regression estimates showing the association of ever use of MR among currently married women with some selected sociodemographic characteristics, BDHS 1999-2000

Characteristics	Estimates B	Odds ratio	p-value
Current age			
<20 years	-0.968	0.379	0.000
30 years and above (ref : 20-29 years)	0.297	1.346	0.012
Age at marriage			
< 15 years (ref : 15 years and above)	-0.124	0.883	0.250
Living children			
0-2	-0.566	0.567	0.000
5 and above (ref: 3-4 children)	-0.099	0.905	0.500
Ideal number of children			
Less or equal 2 (ref: 3 or more)	0.156	1.169	0.157
Maternal education			
Secondary or higher	0.717	2.048	0.000
Primary (ref: no education)	0.322	1.380	0.016
Husband's occupation			
White-collar (ref: farmer/labourer etc.)	0.342	1.408	0.000
Wealth index			
High	0.410	1.507	0.016
Middle (ref: poor)	0.155	1.167	0.300
Media exposure: yes	0.438	1.550	0.000
Women's mobility: yes	0.272	1.313	0.026
Work status			
Earn cash (ref: unemployed)	0.266	1.304	0.025
Division			
Barisal	0.457	1.550	0.018
Chittagong	-0.172	0.841	0.254
Khulna	0.290	1.336	0.062
Rajshahi	0.430	1.538	0.001
Sylhet (ref: Dhaka)	-0.292	0.740	0.284
Residence			
Urban (ref: rural)	0.435	1.545	0.000

-2 log likelihood = 3,450; p-value < 0.001.

Reasons for accepting MR

The women who participated in the FGDs reported that they had received MR services mainly in order to terminate an unwanted pregnancy as they did not want any more children or wanted to space births. The unwanted pregnancies occurred mostly following methods failure or to a lesser extent, non-use of family planning methods immediately before the conception. As most women were using oral pills or injections, methods failure occurred mainly because of a lack of complete compliance or irregular use. Women acknowledged forgetting the due date of injections at times or forgetting to take the pill regularly. The incorrect use of family planning methods was thus primarily due to negligence or to a lack of effective knowledge about the method.

Table 12. Percentage distribution of MR acceptors who participated in in-depth interviews by reasons for accepting MR

Reasons	Percentage*
Irregular menstruation	5.3
Do not want anymore children	39.5
Spacing of births	18.4
Health/medical reasons	15.8
Economic hardship	21.0
Family problems	7.9
Number of cases	38

* Total percentages will not add to 100 owing to multiple responses.

The in-depth interviews also revealed varied reasons for accepting MR services. The findings, presented in table 12, suggest that approximately 40 per cent of women utilized MR services to terminate an unwanted pregnancy as they did not want any more children. A large majority of MR acceptors reported that the pregnancies resulted either from a contraceptive failure or the non-use of contraceptive methods. The findings suggest that owing to inappropriate and irregular use of family planning methods, especially oral pills, condoms and injections, the women became pregnant. Birth spacing and health concerns appeared as the next most prominent reasons for accepting MR. Economic hardship was also mentioned as an important reason for using the method. Some women reported not being able to afford the financial costs of rearing another child. Others cited health problems (such as blood pressure and asthma), as reasons for MR. It is interesting to note that in a few cases, women had to resort to MR because of their husbands' refusal to use a family planning method. The following cases describe some of the reasons:

Rahima is 37 and has been married for 20 years. She completed primary level of schooling, while her husband completed the higher secondary level. They have four living children; three girls and one boy. She does not want any more children. Her husband is a small trader and they live in their own house. Rahima used oral pills but discontinued owing to side effects. Her husband used condom irregularly therefore she became pregnant. She was six-week pregnant when she had MR. The provider charged 150 taka (1USD ~ 61 Tk) and she had to purchase medicine from the market. She had fever for 15 days and experienced other minor complications. Currently she is using injectable contraceptives and does not want any more children. She did not consult anyone except for her husband. Initially, she was afraid of the MR procedure.

Taslima is 20 years old. She has two years of schooling and is a member of an income-generating NGO. Her husband, 25 years old, has six years of schooling. He is a plumber. They live in a slum area and have a daughter. Her first conception was aborted spontaneously after three months of pregnancy. She terminated her third pregnancy by MR. She was taking oral pills but did not like it. Owing to side effects, she took it irregularly and became pregnant. Though the pregnancy was unwanted she did not want to abort it. However, her husband forced her to as his income was not sufficient to bear the expenses of another child. Her husband wanted to accompany her to the clinic but she requested him not to come as she felt embarrassed. After the MR was conducted she experienced some problems. She had bleeding and lower abdominal pain. The doctor prescribed her some medicine. In the future, she would like another child. Currently, she is using IUD. She had limited knowledge about MR. She thinks MR can be done up to five months of pregnancy. She heard about the procedure from neighbours. She consulted a health worker and was advised to go to a clinic located in Mohammadpur. Taslima views MR as a complex procedure not well received by elderly persons. She blames herself for having accepted the method.

Attitude towards MR

One of the purposes of the in-depth interviews and FGDs was to understand the perceived social impact of pregnancy terminations particularly what families and communities feel about MR and their attitude towards it. It is evident from

FGDs that MR acceptors often try to hide the fact that they underwent the procedure, owing to social stigmas. A substantial proportion of MR acceptors considered it a sin and feel guilty for having accepted MR. According to respondents, religious leaders and elderly people do not support the practice.

The results of the in-depth interviews on 38 MR acceptors indicated that about 42 per cent of the acceptors did not support MR, despite having accepted the procedure (table 13), while the same proportion of women expressed regret for having undergone MR. In addition, 26 per cent reported facing social/mental problems following the procedure. Most women (79 per cent) considered MR as offensive to their religion. MR acceptors reported that the overwhelming majority (87 per cent) of the community had a negative attitude towards MR. In general, community members are perceived as not very supportive of the procedure.

Table 13. Opinion on the acceptability of MR

Attitude towards MR	Percentage
Support MR	
Yes	57.9
No	42.1
Feeling remorseful for having accepted MR	
Yes	42.1
No	57.9
Is it against religion?	
Yes	78.9
No	21.1
Facing any social/mental problem?	
Yes	26.3
No	73.7
Attitude of the community towards MR	
Positive	13.2
Negative	86.8
Number of cases	38

Discussion and conclusion

In spite of a nationwide family planning programme and a moderately high rate of contraceptive use (more than 50 per cent), mistimed or unwanted pregnancies are still very common in Bangladesh. Many women face the need for a pregnancy termination and opt either for the menstrual regulation (MR) method or for a traditional abortion. The present study shows that currently married women and acceptors of MR have a moderately high knowledge of MR, while most of them obtained information about the method from relatives and family planning workers, but not from the media. This is probably because MR is advertised neither in the print nor in the electronic media. In addition, women tend to obtain information about sensitive issues through the informal network of family and friends rather than from the media. The finding that the great majority of MR acceptors do not view MR and abortion differently should be considered in the broader policy context.

Evidence from the BDHS data suggest that women's education, number of living children, exposure to media, husband's occupation, economic status and women's mobility are among important predictors of MR acceptance. Not surprisingly, urban women who are older and employed are more likely than others to seek MR.

Unwanted pregnancy continues to be a major health problem in Bangladesh, despite the fact that there has been a steady increase in the contraceptive use rate over the last two decades. Bangladeshi women have a very high level of awareness of contraceptive methods but detailed knowledge of how the methods actually work is not widespread. Although most MR acceptors want to limit their family size, they are not using the appropriate methods. Among MR acceptors oral pills remain most widely used.

The findings demonstrate that unwanted pregnancies result either from the non-use of contraceptive or from contraceptive failure, both of which are related to the poor quality of family planning services, particularly counseling. The major recommendation emerging from this study is that service providers should focus increasingly on counseling, particularly the use of longer acting methods, and more effective use of contraceptive pills. The clients should be informed about the consequences of not taking the oral pill as per the requirements. Particularly, the service providers' knowledge about actions to take in case the client misses the pill for more than two days needs to be improved. Similarly, service providers' knowledge about emergency contraceptive pills (ECP) needs improvement, while ECP should be made widely available in rural areas. Women seeking MR could easily be recruited into more effective long-term methods of family planning. The strategy should be based on an effort to improve the overall

reproductive health of women, which implies an improvement of the quality of service delivery, information and support services.

Although most Bangladeshi women wish to limit the size of their family, there is a negative feeling about MR as a method of fertility control. Even though women accepted MR as a method of fertility regulation, most women still consider MR as sinful. It is noteworthy to mention that the majority of MR acceptors think MR is offending religion. The study findings demonstrate an urgent need to implement a policy focused primarily on providing information through the mass media and ensuring that service providers are trained adequately to perform their duty. Potential clients need to be well-informed about the MR procedure, its proper timing and advantages over a traditional abortion. Considering the prevailing sociocultural and religious belief, a massive public education campaign would elicit some negative reactions. Therefore, words need to be spread primarily from woman to woman. In this context, the role of the village-level family planning workers – the Family Welfare Assistants (FWAs) – is especially important. In fact, some FWAs currently refer women to health posts for MR or even take them there themselves. Sexually active women also need to monitor closely the timing of their menstruation.

The quality of MR services requires immediate attention. MR providers should exercise increasing caution regarding the timing of the MR procedure and should not conduct it beyond the safe period. MR acceptors should attend follow-up visits. The MR training curricula should be reviewed and updated to fully benefit from new clinical procedures.

The increasing availability of MR services in both the public and private sectors in Bangladesh has undoubtedly reduced the incidence of dangerous illegal abortions and abortion-related mortality and morbidity, yet it could not eliminate the need for traditional abortion practices. Therefore, an expanded MR programme would bring significant new opportunities for women to control safely and effectively the timing and number of children they desire. For women who are determined to terminate a suspected or known pregnancy, high quality MR services could clearly provide an excellent point of entry into the regular use of other fertility regulation methods.

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References

- Adetunji, J. (1997). "Levels, Trends, and Determinants of Unintended Childbearing In Developing Countries", paper presented at the annual meeting of the Population Association of America, Washington D.C., Mar. 27-29, 1997.
- Ahmed, S. and others (1996). "Abortion in Rural Bangladesh: Evidence from the MCH-FP Extension Project", working paper No. 121. Dhaka, Bangladesh: ICDDR, B.
- Akhter, H.H. and R.V. Rider (1983). "Menstrual regulation versus contraception in Bangladesh: characteristics of acceptors", *Studies in Family Planning*, vol. 14, No. 12.
- Ali, M.S., M. Zahir and K.M. Hassan (1978). *Report on Legal Aspects of Population Planning, Bangladesh*, Dhaka: The Bangladesh Institute of Law and International Affairs.
- Bitto, A. and others (1997). "Adverse outcomes of planned and unplanned pregnancies among users of natural family planning: a prospective study", *American Journal of Public Health*, vol. 97, No. 3, pp. 338-343.
- Bongaarts, J. (1997). "Trends in unwanted childbearing in the developing world", *Studies in Family Planning*, vol. 28, No. 4, pp. 267-277.
- Caldwell, B. and others (1997). "The Determinants and Consequences of Pregnancy Termination in Rural Bangladesh: The Wider Context", working paper no. 131, MCH-FP Extension Project. Dhaka, Bangladesh: ICDDR, B.
- Dixon-Mueller, R. (1988). "Innovations in reproductive health care; menstrual regulation policies and programs in Bangladesh", *Studies in Family Planning*, vol. 19, No. 3, pp. 129-140.
- Eggleston, E. (1997). The effect of unintended pregnancy on low birth weight in Ecuador, unpublished dissertation, University of North Carolina at Chapel Hill, N.C., United States of America.
- Forrest, J.D. (1994). "Epidemiology of unintended pregnancy and contraceptive use", *American Journal of Obstetrics Gynecology*, vol. 170, No. 5, pp. 1485-1489.
- Gage, A.J. (1996). Does Fertility Timing Influence the Utilization of Maternal Health Care Services? Evidence from Kenya and Namibia, working papers in African Demography, University Park, P.A., United States of America, Population Research Institute, Pennsylvania State University, No. AD96-05.
- Hossain, A., H. Kamal and R. Akhter (1997). *Septic Abortion: Results from an Anthropological Study*, Dhaka, Bangladesh: BAPSA.
- Kost, K., D.J. Landry and J.E. Darroch (1998). "Predicting maternal behaviors during pregnancy: does intention status matter?", *Family Planning Perspectives*, vol. 30, No. 2, pp. 79-88.
- Newman, Lucile F., eds. (1985). *Women's Medicine: A Cross-Cultural Study of Indigenous Fertility Regulation*, New Brunswick: Rutgers University Press.

- Measham, Anthony R. and others (1981). "Complications from induced abortion in Bangladesh related to types of practitioner and methods, and impact on mortality", *The Lancet*, (24 January), pp. 199-202.
- Mitra, S.N. and others (2001). *Bangladesh Demographic and Health Survey, 1999-2000*, NIPORT, Dhaka, Bangladesh; Mitra Associates, Dhaka, Bangladesh.
- Piet-Pielon (1998). Menstrual Regulation Impact on Reproductive Health in Bangladesh: A Literature Review, regional working paper, No. 14, Dhaka, Bangladesh: Population Council.
- Population Information Programme (1973). "Menstrual regulation: what is it?", *Population Reports*, Series F, No. 2 (April), the Johns Hopkins University.
- Rob, U., M. Mazharul Islam and Nitai Chakroborty (2002). *Dynamics of Menstrual Regulation Practice in Bangladesh*, UNFPA, Dhaka, Bangladesh.
- Tietze, C. and M.C. Murstein (1975). *Induced Abortion: A Factbook*, 2nded., reports on Population/Family Planning, No. 14 (December), New York: The Population Council