

Contraceptive Switching Patterns in Rural Bangladesh

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Abstract

Objective: The study was carried out to investigate the contraceptive method-switching patterns in rural areas of Bangladesh, including their sociodemographic determinants, and the effect of switching on the prevalence and method-mix.

Methodology: The longitudinal data from the Sample Registration System (SRS) of the ICDDR,B MCH-FP Extension Project (Rural) at Abhoynagar and Sirajganj sub-districts, collected over an 11-year period (1983-1993), were used for the analyses of a special cohort of 2,866 married women of reproductive age (15-39 years in 1983) and were still present in the system in 1993. The frequency of method switching, reasons for switching, and the direction and sequence of switching patterns were analyzed, using cross-tabulations. The sociodemographic and programmatic determinants of switching behaviour among the contraceptive users were also examined, using logistic regression procedures.

Results: More than half the women using contraception switched methods at least once. The most frequent method switching occurred between the two hormonal methods - pill and injectables. For the majority (72%) of the sterilization users, sterilization was their first method ever used. Traditional method users were more likely to switch to sterilization than were hormonal method users. Education of the women and frequency of contact with the government field workers were positively related to the number of switches. Side-effects and the need for more suitable methods were two main reasons for switching methods. Husband's objection was an important reason for switching from male methods like condoms and withdrawal and also from "safe period" to other methods.

Conclusions and Implications: Findings of the study show that although method switching is prevalent in rural Bangladesh, switching from hormonal to long-term methods or barrier methods was rare. The family planning programme should underscore the importance of the different types of contraceptive methods available and counsel the eligible couples according to their individual needs.

Background

During the past two decades, Bangladesh has witnessed a considerable success in its family planning programme with a six-fold increase in the contraceptive prevalence rate (CPR) and a decline in fertility almost by half [1]. However, to attain replacement-level fertility by 2005, a more difficult task lies ahead. According to the principles laid down by the International Conference on Population and Development (ICPD), family planning programmes must meet their goal, not by application of coercion, but by enabling the couples to “decide freely and responsibly the number and spacing of their children and to have the information and means to do so and to ensure informed choice and make available a full range of safe and effective methods” [2]. Therefore, it has become crucial for the family planning programme to know and understand the individual needs and contraceptive use patterns. As contraceptive prevalence continues to rise, it is important to shift the focus from factors that affect contraceptive adoption to factors that affect the continuation of use and change in methods, or cause unintended pregnancy.

Of all aspects of contraceptive use dynamics, method switching, defined as the change from the use of one family planning (FP) method to another, perhaps, is the least studied. However, its importance cannot be denied. It is widely recognized that no single contraceptive method can meet the needs of an individual woman throughout the various stages of her reproductive life [3]. The contraceptive needs of a newly wed couple will definitely differ from that of a mother of three or more children in her late thirties.

Several studies [4-8] have underscored the importance of investigating contraceptive method switching patterns in evaluating the family planning programmes in different parts of the world. The programmatic implications of method switching are still largely unknown [7]. On one hand, a high rate of method switching may indicate a successful family planning programme [9],

where women are exposed to an array of contraceptive methods and have the opportunity to change their method as their need changes. On the other hand, switching may imply a poorly managed programme with problems, such as contraceptive supply shortages, inadequate screening for contraindications, weak counselling services, and poor management of contraceptive side-effects.

The existence of longitudinal data sets from the ICDDR,B MCH-FP Extension Project (Rural) field sites provides us with an excellent opportunity to study the individual-level contraceptive use dynamics, including continuation rates, method failures, and switching of methods, in rural Bangladesh. Earlier studies [9-11], investigating contraceptive use dynamics in Matlab as well as the Extension Project areas, concentrated primarily on continuation and method failure rates. The success of the ICDDR,B Matlab Family Planning Programme has been attributed to the provision of alternative methods to women who terminate the first method adopted [9]. It was also evident that, in Bangladesh, contraceptive failure is a major problem for all temporary methods users, except injectables and the IUD [11]. Experience from the Extension Project has confirmed this fact and stressed the importance of logistics management and training of service providers before adding any new contraceptive methods into the programme. The need to investigate the reasons for discontinuation was also emphasized [10].

To fully understand the role method switching plays in determining the individual-level contraceptive use dynamics in rural areas, it is essential to study in detail the prevalent switching patterns. How many method-switching segments do women experience, prior to adopting a permanent method? Do women in these areas mix use of modern and traditional methods? Is there a particular method use pattern for younger women? Which sociodemographic characteristics affect switching patterns? Has method switching contributed to high all-method continuation rates and lower failure rates in recent years? Answers to these questions will be extremely helpful in designing future strategies in family planning programmes and in responding to key challenges,

such as low contraceptive use among young married women, decline in relative share of longer-acting methods, and high discontinuation rates [12].

Objective

The objective of this study was to understand the contraceptive method switching patterns in rural areas of Bangladesh, including sociodemographic determinants and the effect of switching on prevalence and method-mix.

Methodology

The data for this analysis have been taken from the longitudinal data set of the Sample Registration System (SRS) maintained by the ICDDR,B MCH-FP Extension Project (Rural) in two rural areas. Working within the government system, the MCH-FP Extension Project conducts operations research to improve the health and family planning service delivery in rural Bangladesh.

The SRS data from Abhoynagar thana and Sirajganj thana over an 11-year period, starting from 1983, have been used for the analysis. Abhoynagar is located to the southwest of the capital city, Dhaka. At Abhoynagar, communication with the rest of the country is good. A sizeable portion of the labour force works at mills and factories. Here, literacy is slightly higher than the national rate [13]. The CPR of the project area at Abhoynagar has increased from 22 per cent in 1982 to about 55 per cent in 1993 [14]. Sirajganj thana is located to the north-west of Dhaka, on the banks of the Jamuna River. The economy is mainly agricultural, and the river is the primary route of travel. Here, literacy lags behind the literacy rate of Bangladesh as a whole. The majority of the households own no arable land. The CPR increased from 5 per cent in 1982, to 40 per cent, in 1991 and 40 per cent CPR has more or less stabilized since then [13].

Since 1982, the SRS field interviewers have been visiting sample households once every three months. They record the vital events which have occurred since their last visit, including any pregnancy outcome event, menstrual and contraceptive use status of married women of reproductive age (MWRA), and the visitation dates of the government field workers.

A baseline survey was conducted in both areas for 5,757 ever-married women of reproductive age from SRS households in 1982 to collect detailed information on their fertility desires and contraceptive knowledge, attitude and practice. In 1993, a similar survey was carried out for 5,712 MWRA who were currently present in the SRS sample of the same areas.

During 1982-1993, about 9,800 MWRA were followed by the SRS surveillance system in these two areas. Some of them have continued with the system throughout the period. Others, however, had died or migrated out of the area or otherwise lost their eligibility through divorce, menopause, etc. during 1982-1993. A cohort of 2,866 MWRA who were present at the beginning and had continued throughout the reference period and were still of reproductive age, was selected for our analysis. For these 2,866 women, baseline data from the 1982 survey, follow-up data from the 1993 survey, and information on contraceptive use status from the longitudinal data for a total of 44 quarterly observations of the same women over the 11-year period were used in the analyses.

A woman is said to be a multiple methods user when she has reported using more than one family planning method during the reference period. Method switching has been defined as a shift from the use of one contraceptive method to another over a period of time. Interrupted use of the same method, without adopting any other method, is not considered switching. A period of continuous use of a contraceptive method has been defined as a use segment. A three-month period of non-use (single SRS observation) not resulting in a pregnancy is ignored.

Data on reasons for discontinuation are available only since 1989. Whenever a woman discontinues use of a contraceptive method, she is asked about the reasons for doing so regardless of her adoption of a second method. For the cohort of women in our analysis, 2,022 such occurrences (events) of discontinuation or switching were recorded during 1989 -1993.

The frequency of method switching, reasons for switching, and the direction and sequence of switching patterns (e.g. temporary to permanent, traditional methods to modern temporary, etc.) were analyzed using cross-tabulations. The sociodemographic and programmatic determinants of switching and multiple switching behaviour among contraceptive ever users were examined, using logistic regression procedures. Women who have never used any contraceptive method during the reference period and those who were already using a permanent method at the beginning of the reference period were excluded from the multivariate analyses.

Limitation of the study

It must be mentioned here that, following up a "special group of women" may have contributed to a selection bias in our analysis and because the data were from only two thanas the results are not generalizable for all MWRA in rural Bangladesh. As the aim of this study was to understand contraceptive-switching patterns on an individual basis, it was important to be able to determine exactly the origin and destination method for each incidence of method switching. Therefore, only those women for whom source and target methods could be precisely determined were included in the analysis as method switchers.

For our sample, we would expect an increase in contraceptive use over the total reference period, as the sample of MWRA grew older. However, we did not attempt to prove or disprove increases in the CPR over the reference period, or explain any changes in method mix in the study area. Moreover, about one-fifth of the total 9,800 women were included in the SRS for a period

of less than a year while staying at their fathers' homes after marriage for a short time before finally leaving for their husbands' homes. They constituted a large proportion of the women who were omitted from our analysis.

Results

A summary of the sociodemographic profile of the sample women has been shown in Table 1. Out of the cohort of 2,866 women, 57 per cent came from Sirajganj thana and the rest from Abhoynagar thana. The majority (74%) of the women was in the age-group 15-30 years in 1982, the mean age in 1982 being 25 years. About 87 per cent of the women were Muslims. More than two-thirds of these women had no education, and the mean year of education was 1.4. Almost all (99%) the women were housewives, but about two-fifths of them took part in income-generating activities in their homes. The husbands of half of our sample had no education. About 44 per cent of the husbands were engaged in agriculture; one-quarter were working in factories or construction sites; one-fifth were engaged in business; and only 5 per cent were service holders. During the reference period, about 50 per cent of these women had been regularly (at least three times a year) visited by the government field workers, and the rest had been visited less frequently.

In 1982, 11 per cent (324) of the sample of women had no children; 34 per cent had one or two children; 37 percent had three to five children, and the rest had more than five children. In 1993, only 38 women (1%) remained childless; 10 per cent had limited their family size to less than three children; half had three to five children and the rest had more than five children. At the beginning of the reference period, the mean number of children born to a woman was 3.2. In 1993, it was 5.1. During the 11-year period, on an average, two children were born to a woman.

Table 1. Sociodemographic profile of sample women (n = 2,866)

Characteristics	No.	Per-centage	Characteristics	No.	Per-centage
Area			Religion		
Sirajganj	1620	56.5	Muslim	2488	86.8
Abhoynagar	1246	43.5	Hindu	378	13.2
Age (years)			Dwelling space (in sq.ft.)		
Less than 20	660	23.0	Less than 150	440	15.4
20 – 30	1447	50.5	151-300	1192	41.6
Over 30	759	26.5	More than 300	1234	43.1
Mean: 25.1					
Education			Children ever born (1982)		
None	1998	69.7	No children	324	11.3
1-5 years	661	23.1	1-2	977	34.1
6+	207	7.2	3-5	1070	37.3
Mean: 1.4			6+	495	17.3
			Mean: 3.2		
Husbands' education			Children ever born (1993)		
None	1477	51.5	No children	38	1.3
1-5 years	713	24.9	1-2	296	10.3
6+	676	23.6	3-5	1440	50.2
Mean: 3.1			6+	1092	38.1
			Mean: 5.1		
Occupation			Frequency of field worker contact per year		
Housewife	1774	61.9	Less than 1	210	7.3
Income at home	1057	36.9	Two	1182	41.2
Employed Outside	35	1.2	Three	961	33.5
			More than 3	513	17.9
Husbands' occupation					
Agriculture	1204	42.0			
Business	545	19.0			
Service	159	5.5			
Other	958	33.4			

Table 2 shows the percentage distribution of the sample women currently using various contraceptive methods in 1982 and 1993. For comparison, method-specific distribution of all SRS MWRA from these areas during the 1982 and 1993 surveys, national data from the 1983 Contraceptive Prevalence Survey [15] and 1993-94 Bangladesh Demographic and Health Survey (BDHS) data [16] are shown. The 1996-97 BDHS data [1] are also shown in this table.

Table 2. Percentage of MWRA currently using contraceptives by method according to the SRS (Abhoynagar and Sirajganj) and national surveys

Method	Sample women (n = 2866)		SRS Survey (n = 5144)	SRS Survey (n = 5300)	CPS (n = 7662)	BDHS (n = 8990)	BDHS (n = 8450)
	1982	1993	1982	1993	1983	1993-94	1996-97
Total	16.2	55.3	15.5	53.0	19.1	44.6	49.2
Modern							
Temporary	5.0	38.2	4.2	37.1	6.3	27.1	32.7
Pill	2.0	16.4	1.7	15.4	3.3	17.4	20.8
Injectables	0.2	15.2	0.3	14.1	0.2	4.5	6.2
IUD	0.8	2.5	0.9	3.4	1.0	2.2	1.8
Condom/ foam	2.0	4.1	1.3	4.2	1.8	3.0	3.9
Permanent	4.5	9.9	4.5	10.9	7.4	9.2	8.7
Male sterilization	0.6	1.9	0.8	2.6	1.2	1.1	1.1
Female sterilization	3.9	8.0	3.7	8.3	6.2	8.1	7.6
Traditional	6.7	7.2	6.8	5.0	5.4	8.4	7.7
Safe period	3.3	2.2	3.5	1.8	2.4	4.8	5.0
Withdrawal	0.7	2.1	0.7	1.8	1.3	2.5	1.9
Other	2.7	2.9	2.6	1.4	1.8	1.1	0.8

Table 2 shows that although our sample contains only a specific cohort of women, their current contraceptive use patterns in 1982 and 1993 were

quite comparable to that of the Project's SRS survey and also to the national surveys during these periods. The only exception was for the use of injectables in 1993, which was quite high in the project areas due to the special intervention of the MCH-FP Extension Project

Figure 1 shows the trend in contraceptive use of the sample women over the 11-year period. We can see that there was a steep rise in contraceptive use, especially use of hormonal methods, such as pill and injectables, among these women from 1986 to 1990, after which the use rate has, more or less, stabilized. The increase in the use rate has been primarily due to the recruitment of additional female field workers in the project areas during this period [17].

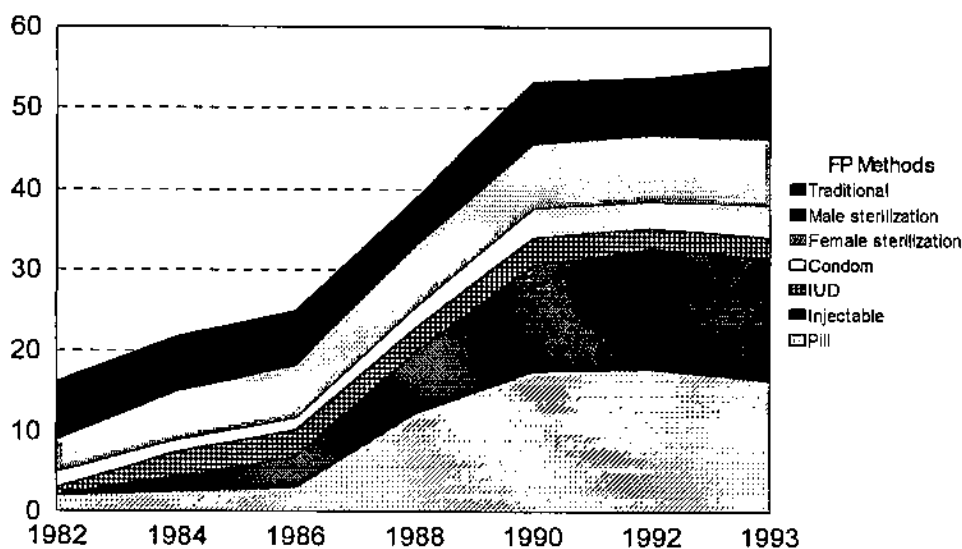


Fig.1. Percentage distribution of the cohort women (n = 2,866) by FP method used and year

Table 3 presents a summary of data on ever-use of contraceptives at the baseline survey and during the reference period, including the number of methods used, number of switches and the number of use segments. In the

11-year period, ever-use of family planning methods by the sample women has risen from 30 per cent to more than 85 per cent. In 1982, only about 9 per cent of the women had used more than one method,. During the next 11 years, about 50 per cent of these MWRA have used at least two different contraceptive methods, with six different kinds of methods being the maximum number reportedly used by any one woman. Some women switched back and forth between the same few selected methods. About one-third of the ever-users had used only one method for a continuous period of time during the reference period. More than 3 per cent of the women had switched methods, including switch-backs to previously used methods, up to seven or more times.

Table 3. Percentage distribution of sample women by number of methods used, number of switches, and number of use segments (n = 2,866)

No. of FP methods ever used	1982	1983-1993	Reference period : 1983-1993			
	Distribution of MWRA	Distribution of MWRA	No. of switches*	Distribution of MWRA	No. of use segment	Distribution of MWRA
None	70.3	15.5	None	52.2	None	15.5
1	21.5	36.7	1	18.0	1	25.4
2	5.9	27.1	2	12.3	2	18.4
3	1.6	14.4	3	7.5	3	14.5
4	0.6	4.6	4	4.0	4	10.0
5	0.1	1.4	5	2.6	5	6.0
6	0.0	0.2	6+	3.4	6	4.5
					7+	5.7
Total	100.0	100.0	Total	100.0	Total	100.0
Mean	0.4	1.5	Mean	2.0	Mean	2.5

* Includes switchbacks to previously used methods

Method-switching Patterns

During the 1993 survey, the women were asked about the first contraceptive methods they had ever used. A cross-tabulation of the methods women were

using in 1993, with the types of methods they reportedly used first, and also with the method they were using during the 1982 baseline survey, is shown in Table 4. For 64 per cent of all women, the first ever-used method was a modern temporary method, and for 10 per cent, it was a traditional method. Interestingly, for more than two-thirds (71%) of the permanent method users, the current method had been their first method used. More than 40 per cent of them had been already using the same method in 1982. There were 8 cases that reported sterilization (5 - male and 3 - female) as their first method, but later adopted a different method, as is evident from this table. The longitudinal data confirmed that in all these cases women had started using other temporary methods after encountering method failure with sterilization.

For over half the traditional method users, a modern temporary method was the first method ever used. Except for sterilization users in 1993, the majority (84%) of these women had not been using a contraceptive method in 1982. For nearly 60 per cent of the pill users in 1993, pill was the first method ever used. Five per cent of these women had been using the same method at baseline. Less than 1 per cent of the injectables users had been using this method in 1982.

In the following three tables (Table 5-7), switching behaviour of those women who have used multiple methods has been examined by looking at the very first switch, the subsequent switch, and the most recent switch the women made during the 11-year period. In Table 5, we cross-tabulate the first method adopted since 1982 with the subsequent method adopted. In Table 6, we examine the second switch event by looking at the third method selected, against the very first method. Table 7 cross-tabulates the most recent

Table 4. Percentage distribution of sample women by the first method reported to have ever used and by the method used at baseline according to the method used in 1993

Currently used method	First FP method ever used as recalled in 1993								FP method used at baseline survey 1982							
	Pill	Injectables	IUD	Condom	Permanent	Traditional	Never used	Total	Pill	Injectable	IUD	Condom	Permanent	Traditional	Non-user	Total
Modern																
Temporary																
Pill (n = 470)	59.1	15.7	8.3	8.5	0.4	7.9	N/A	100.0	4.9	0.4	1.1	2.1	0.4	6.2	84.9	100.0
Injectables (n = 436)	33.5	46.3	8.5	4.1	0.0	7.6	N/A	100.0	2.3	0.0	0.7	1.6	0.0	6.7	88.8	100.0
IUD (n = 72)	22.2	15.3	44.4	9.7	0.0	8.3	N/A	100.0	4.1	0.0	4.2	6.9	0.0	12.5	72.2	100.0
Condom (n = 118)	38.1	13.6	5.1	30.5	0.0	12.7	N/A	100.0	2.5	1.7	2.5	13.6	0.0	9.3	70.3	100.0
Permanent																
(n = 284)	13.4	2.8	4.6	3.1	71.5	4.6	N/A	100.0	1.1	0.3	1.1	0.7	44.4	5.3	47.2	100.0
Traditional																
(n = 208)	26.9	11.5	3.9	7.2	0.9	49.5	N/A	100.0	1.0	0.0	1.0	1.4	0.0	11.5	85.1	100.0
None (n = 1278)	28.3	15.6	3.7	4.3	0.3	6.3	41.5	100.0	1.2	0.0	0.3	1.2	0.2	6.0	91.2	100.0
All women	32.7	18.7	6.3	6.3	7.5	10.0	18.5	100.0	2.0	0.2	0.8	2.0	4.6	6.7	83.7	100.0

method used in 1993 with the immediate previous (penultimate) method the woman used.

Table 5 shows that there is a high rate of switching between the hormonal methods: pill and injectables. Almost three-quarters of the injectables users who switched, chose pill as their next method. The reverse is true for nearly half the pill users. There is also a group of users who mix modern methods, like pill and condom with traditional methods. In fact, pill is the most frequent destination method for switching from any other method. Switching to a permanent method is quite rare, especially for pill and injectables users. Some of the IUD and traditional method users do ultimately opt for sterilization.

Table 5. Percentage distribution of multiple method users by second contraceptive method adopted according to the first method used: 1982-1993

Method first used (n = 1400)	Second method adopted						Total
	Pill	Injec- table	IUD	Condom/ Foam	Perma- nent	Tradi- tional	
Pill (n = 298)	N/A	47.6	6.4	15.8	1.3	28.9	100.0
Injectables (n = 245)	73.1	N/A	7.7	9.8	0.4	9.0	100.0
IUD (n = 136)	48.5	25.0	N/A	14.0	4.4	8.1	100.0
Condom (n = 190)	41.1	19.5	8.4	3.2	1.0	26.8	100.0
Traditional (n = 531)	29.4	22.2	8.7	10.2	3.8	25.8	100.0

In Table 6, we examine the third method adopted by the women switching methods, against their first method of use. About 60 percent of the multiple-method users switched family planning methods for a second time. Following the diagonal of Table 6, we find that, during the second switch event, the majority of the users, especially pill (72%) and injectables (59%) users, switched back to the first method they adopted. However, once the IUD users switched away from the IUD, less than one-fifth of them returned to it.

Table 6. Percentage distribution of third-segment switchers by method according to the first method used: 1982-1993

First method adopted	Method (third) adopted during the second switch event						Total	Switching methods twice	
	Pill	Injectable	IUD	Con-dom	Perma-nent	Tradi-tional		Total No.	Per-centage
Pill (n = 298)	72.0	11.4	0.5	6.7	0.5	8.8	100.0	193	64.8
Injectables (n = 245)	9.4	58.7	6.2	12.3	3.6	9.4	100.0	138	56.3
IUD (n = 136)	23.2	29.3	19.5	12.2	2.4	13.4	100.0	82	60.2
Condom (n = 196)	28.0	12.8	4.8	40.8	1.6	12.0	100.0	125	65.8
Traditional (n = 531)	27.3	22.0	3.6	8.9	2.1	36.2	100.0	282	53.1

A similar pattern, as in Table 5, is observed for the most recent switch (Table 7). Frequent switching between pill and injectables is still high. Though pill has remained the most sought-after method for switching, injectables are rapidly gaining popularity. Almost half the permanent method users switched from traditional methods. Injectables users rarely switch to a permanent method.

Table 7. Percentage distribution of current contraceptive users in 1993 who switched from another method by the penultimate method used: 1982-1993

Method currently used in 1993	Penultimate method						Total
	Pill	Injectables	IUD	Con-dom	Perma-nent	Tradi-tional	
Pill (n = 326)	N/A	42.9	12.0	20.3	0.6	24.2	100.0
Injectables (n = 314)	59.9	N/A	8.0	8.9	0.3	22.9	100.0
IUD (n = 47)	42.6	27.7	N/A	10.6	0.0	19.2	100.0
Condom (n = 96)	45.8	17.7	5.2	N/A	0.0	31.3	100.0
Permanent (n = 60)	18.3	13.3	15.0	0.0	5.0*	48.3	100.0
Traditional (n = 146)	32.2	17.1	2.1	17.8	0.7	30.1	100.0

* There were 3 cases where the switch was from male sterilization to female.

Determinants of method-switching

The sociodemographic and programmatic determinants of multiple switching of contraceptive methods have been examined in Table 8. The sample women are categorized into four groups (never, once, twice, and thrice or more) according to the number of times they have switched contraceptive methods. As mentioned earlier, women who have never used any contraceptive method during the reference period and those using a permanent method in 1982 were dropped. As a result, only 2,293 women were included in this analysis.

Incorporating all the differentials studied, a logistic regression analysis was done using three separate models: (i) for women who had switched at least once; (ii) for women who had switched at least twice; and (iii) for women who had switched more than twice. Table 8 shows the results for all three models. The multivariate analysis was preceded by the extensive bivariate analyses. The bivariate results are very similar and not shown here.

The two factors which were most strongly and positively associated with the number of times women switched methods were (a) education, and (b) frequency of family planning field worker visitation. Women who had more than five years of education, and those who were frequently visited by field workers were respectively about three and six times more likely to switch contraceptive methods at least thrice during the reference period. These results were highly significant. Women who had undergone an induced abortion during the reference period were twice more likely to switch methods, indicating an intricate relationship between induced abortion and multiple method use. Likelihood of switching method also significantly decreased with age. Socioeconomic factors, like husband's occupation and dwelling space, significantly affected the switching pattern of women who switched methods more than once. Women whose husbands were service holders or professionals were 90 per cent more likely to switch methods than those

space positively affected the switching frequency. Those women who, at baseline, reportedly wanted no additional children were one and half times more likely to switch methods. The regression results for factors, like desire for an additional child at baseline, parity at baseline and the number of children born during the reference period, indicate that women who switched more often were the ones who had an active, but more controlled reproductive life.

Table 8. Logistic regression odds ratios: association between sociodemographic factors and number of times women switched contraceptive methods: 1983-1193 (n=2,293)

Variable	No. of times women switched FP methods		
	At least once	At least twice	Three or more times
Women's age	0.94***	0.95**	0.93***
Education of women			
No Education (RC)†	1.00	1.00	1.00
1-5 years	1.73***	2.10***	1.89***
Beyond primary	2.25***	2.83***	2.93***
Religion			
Muslim (RC)	1.00	1.00	1.00
Hindu (n=308)	1.15	1.11	1.05
Income-generating activity			
No (RC)	1.00	1.00	1.00
Yes	0.96	1.13	0.99
Husband's occupation			
Agriculture (RC)	1.00	1.00	1.00
Business	0.82	1.01	1.19
Service	1.51	1.71 +	1.95*
Other	0.96	1.17	1.21
Dwelling space(in sq ft.)			
0-200 (RC)	1.00	1.00	1.00
201-300	1.10	1.27	1.40 +
301-400	1.17	1.17	1.51 +
Over 400	1.39 +	1.43*	1.66*
Frequency of FWA visits per annum			
0-1 (RC)	1.00	1.00	1.00
1-2	2.26**	1.85 +	2.48 +
2-3	3.50***	3.41***	4.34**
3 +	5.13***	5.03***	6.57***

† Reference category

Contd...

Table 8 (contd.)

Variable	Number of times women switched FP methods		
	At least once	At least twice	Three or more times
Children ever born in 1982			
0-1 (n = 650)	0.48*	0.49*	0.55+
2-3 (n = 779)	0.76	0.79	0.81
4-5 (n = 499)	0.88	0.85	0.89
6+ (RC)	1.00	1.00	1.00
Child desire in 1982			
Yes (RC)	1.00	1.00	1.00
No	1.38+	1.23	1.48+
Up to God	0.94	0.92	1.13
Number of children born during 1983-1993			
None	0.87	1.12	1.51+
1	1.10	1.36	1.68+
2	1.31	1.50+	1.49
3	1.46+	1.46+	1.18
4+ (RC)	1.00	1.00	1.00
Induced abortion during reference period			
No (RC)	1.00	1.00	1.00
Yes	2.51***	2.14***	2.13***
Likelihood statistics			
-2 Log likelihood	2837.3	2722.5	2142.0
χ^2	256.9	304.4	265.6
Observation	2293	2293	2293
DF	24	24	24

+ $p \leq 0.5$, * $p \leq .01$, ** $p \leq .001$ *** $p \leq .0001$

† Reference category

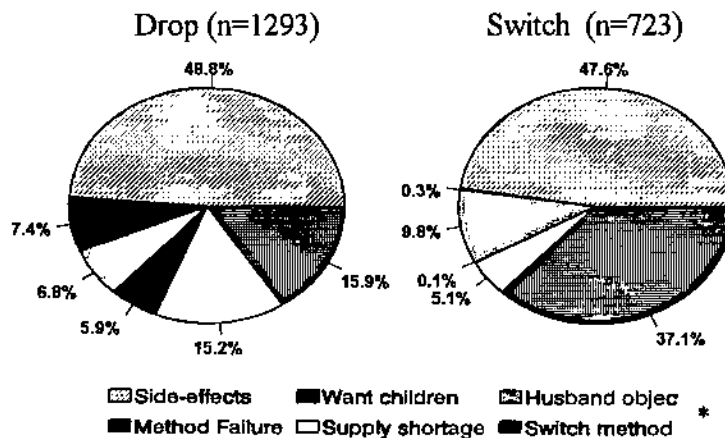
Reasons for method-switching

In this section, we discuss the findings on reasons given for dropping or switching contraceptive methods. This information is available since 1989. An event is classified as a "switch event," when the woman had immediately started using another family planning method after discontinuing the previous one. Otherwise, the event is said to be a "drop" event. Of the 2,022 events

recorded for the sample women, in 64 percent of the cases, women dropped using any method, and for the remaining 36 percent of the cases, they immediately switched to another family planning method.

Figure 2 shows that for both drop and switch events, side-effects were the most frequently cited reason (48%) given for discontinuing a method. Desire for switching to a more convenient method was cited as a reason for discontinuing not only when the women immediately switched methods (37%), but also when they dropped (16%). Interestingly, supply shortage (15%) was also an important reason for dropping a method.

According to BDHS 1993-94 data [16], about 41 per cent of all cases of contraception discontinuation for the previous five-year period were due to side-effects or health concerns; 19 per cent wanted to become pregnant; 7 per cent were due to husbands' disapproval; 8 per cent were due to method failure, 3 per cent cited supply shortage; and a little over 6 per cent wanted a more convenient method. From the preliminary report of BDHS 1996-97 [1] we find that almost half of all the cases of 12-month discontinuation were due to side effects or health concerns. Despite the apparent disparity in BDHS and Project figures for reasons of discontinuations such as wanting more children, method failure and supply shortage, the message that we distinctly get from these data sources that side-effects are the most important reason for discontinuing the contraceptive use.



* Desire to switch to a more appropriate or convenient method

Fig. 2. Percentage distribution of drop/switch events of the sample MWRA by the reasons given for discontinuing the method used: 1989-1993

We found that the pill and injectables users more frequently dropped methods than immediately switched to another method (Fig. 3). There is an intrinsic difficulty in directly switching methods for the hormonal method users since they cannot immediately start practising methods like the safe period [5]. Very few women mentioned "want more children" as a reason for discontinuation

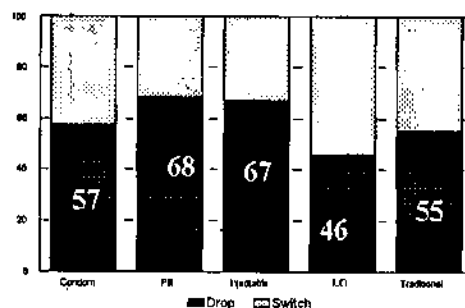


Fig. 3. Percentage distribution of drop and switch events by methods: 1989-1993 (n = 2,022)

(Fig. 2). Therefore, it appears that fear of side-effects and fatigue from using hormonal methods might have prevented these dissatisfied users from adopting another contraceptive method despite their need for it. These women may

need motivation toward, and easier access to permanent methods or advice on temporary use of condoms or traditional methods.

Figure 4 shows the percentage of women who discontinued use and immediately became pregnant, according to the prior method used. Overall, there were 199 such cases. There was no immediate cases of pregnancy for IUD users, and very few for injectables users. There was a single case of method failure for female sterilization (not shown in the figure). This is one of the eight cases of sterilization failures, which occurred during the total reference period (Table 4). As expected, traditional method users, and to some extent condom users, quite often get pregnant while practising their method. Due to the specific way in which SRS records contraceptive use and pregnancy status, it is difficult to determine whether women got pregnant while she was using a FP method or just after she discontinued. However, we consider the case a method failure when the woman has said so as her reason for dropping. As we see in Fig. 5, ninety five per cent of these pregnancies were unwanted. For 36 per cent of these cases, method failure was cited as the reason for dropping, while for 28 per cent, side-effects were the main reason for discontinuation.

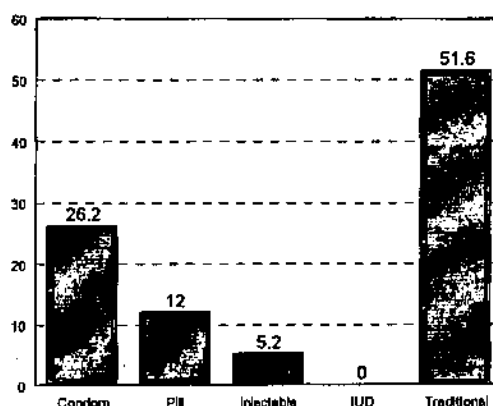


Fig. 4. Percentage of drop cases (women who got pregnant by FP method: 1989- 1993 (n = 199)

The reasons for discontinuation by method for the switch events only (723) have been shown in Table 9. For all the modern temporary methods (pill - 58%, injectables - 77%, and IUD - 65%) except condom, the most frequently cited reason for discontinuation was side-effects.

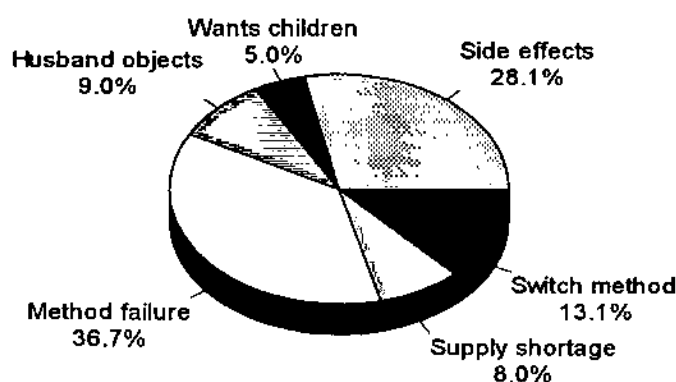


Fig. 5. Percentage distribution of women who became pregnant, by the reasons for discontinuation: 1989-1993 (n=199)

Table 9. Percentage distribution of switching events with different reasons for discontinuation by the specific methods: 1989- 1993

Discontinued contraceptive method	Reasons for discontinuation as reported by the respondents						Total
	Side- effects	Want child- ren	Hus- band's objec- tion	Method failure	Supply Short- age	Switch To more suitable method	
Modern temporary							
Pill (n = 280)	57.9	0	1.1	0	3.6	37.5	100.0
Injectables (n = 200)	77.5	0	0.1	0	9.5	12.5	100.0
IUD (n = 31)	64.5	0	0	0	0	35.5	100.0
Condom (n = 101)	6.9	1.0	47.5	0	7.9	36.6	100.0
Traditional							
Withdrawal (n = 24)	0	0	50.0	0	0	50.0	100.0
Rhythm (n = 47)	0	2.1	12.8	0	0	85.1	100.0
Other (n = 40)	0	0	2.5	2.5	0	95.0	100.0

Shift to a more convenient method was the second most common reason for switching (modern methods - 30% and traditional methods - 81%).

However, injectables users rarely think that any other method is more convenient than injectables. Interestingly, the shortage of supply was the second most frequently cited reason for discontinuation by the injectables users, indicating that not only the clients, but providers too, need to be thoroughly oriented on the importance of maintaining an accurate schedule of injectables doses. Husband's objection is an important reason for discontinuing male-dependent methods like condom and withdrawal, and for traditional methods like safe period.

Table 10 shows, in more detail, the reasons for switching from modern temporary methods by the origin and destination methods. There were only 601 of these cases. Maximum movement is between pill and injectables use and vice-versa, with side effects as the main reason for the change. Switching to a permanent method is a relatively rare event, usually occurring only when the client is aware about its irreversibility and thoroughly convinced of its suitability. Most injectables users, who switched methods due to side-effects, subsequently chose another modern temporary method. Some of the injectables users subsequently adopted condom, when the regular supply of injectables was not available.

There was a single case in which a foam user, who had switched to withdrawal, gave supply shortage as a reason for discontinuation. There were more than a hundred cases of dropping use where the first method was a traditional one (not shown in Table 10). In about three-quarters of all these cases (50% for withdrawal, 75% percent for rhythm, and 90% for other traditional methods), the reason given for switching to a modern temporary method was that a more convenient method had been adopted. For 50 per cent of the withdrawal method users and 13 per cent of the "safe period" method users, husband's objection was the main reason for switching to a modern temporary method. Less than 10 per cent of the traditional method users switched to another traditional method.

Table 10. Percentage distribution of women who switched from a modern temporary method to another method by reasons for discontinuing the first method: 1989-1993

Reason for discontinuing first method	First method : pill (n = 280)					First method : injectables (n = 200)				
	Con-dom (44)	Inject-ables (170)	IUD (9)	Perma-nent (1)	Tradi-Tional (55)	Con-dom (22)	Pill (170)	IUD (4)	Perma-nent (1)	Tradi-Tional (3)
Side-effects	70.5	51.8	55.6	0	69.0	77.3	78.3	75.0	0	66.7
Want children	0	0	0	0	0	0	0	0	0	0
Husband objects	0	1.2	0	0	0	0	0.6	0	0	0
Supply shortage	0	1.2	11.1	0	12.7	18.2	8.8	0	0	0
Switch to suitable method	29.5	45.9	33.3	100	18.2	4.6	12.4	25.0	100	33.3
Reason for discontinuing first method	First method : condom (n = 100)					First method : IUD (n = 31)				
	Pill (54)	Inject-ables (17)	IUD (2)	Perma-nent (0)	Tradi-tional (27)	Con-dom (3)	Pill (15)	Inject-ables (8)	Perma-nent (1)	Tradi-Tional (4)
Side-effects	11.1	0	0		3.7	100	60.0	62.5	0	75.0
Want children	1.9	0	0		0	0	0	0	0	0
Husband objects	46.3	64.7	50.0		40.7	0	0	0	0	0
Supply shortage	1.9	5.9	0		18.5	0	0	0	0	0
Switch to a suitable method	38.9	29.4	50.0		37.1	0	40	37.5	100	25.0

Discussion and Conclusion

In Bangladesh, the last decade has witnessed a dramatic rise in the prevalence of contraceptive use. The predominant contraceptive methods are now pills and injectables. Women in rural areas frequently use multiple family planning methods while in their twenties and thirties. The importance of studying method switching lies in understanding the reasons for switching, the timing of the switch, and the consequences of method switching for the user and his or her partner.

While investigating switching patterns in this study, it was found that about 60 per cent of the modern temporary method users and 70 per cent of the traditional users discontinued the method of the subsequent segment, while the remainder switched to another method. On an average, two-thirds of the modern method switchers chose another modern temporary method as their subsequent method, and only two per cent opted for sterilization. Traditional method users were more likely to switch to sterilization than modern temporary method users were. A common pattern of switching back and forth between pills and injectables was observed during the switches from the very first to the subsequent methods and from the penultimate method to the current method. As in the studies by Akhter and Ahmed [4], the pill was the most common destination for any type of method switch.

Detailed investigation of the continuation rates of modern temporary methods for the rural population in Matlab showed that when the family planning programme is well established and properly managed providing a broad method mix, high contraceptive discontinuation, evident among first method adopters, is substantially mitigated by method switching. Women limited with one method, like the pill, IUD, or injectables only, do not continue it long, but they will practise family planning if alternative methods are available [9]. They concluded that the best results could be achieved only when the family planning programmes were well equipped to deliver a package of contraceptive services, including counselling and follow-up as well

as a range of contraceptive choices - the pill, IUD, injectables together with permanent methods, and interim methods, such as the condom or vaginal foam - which permits switching to produce an effective overall pattern of contraceptive use.

In our study, we found that methods like condom, foam, traditional methods, and sterilization played only a minimal role in the overall switching dynamics. Specially conspicuous was the absence of sterilization as a destination method in switching events, considering the substantial number of high-parity women aged over 30 years in our sample. Sterilization played a much greater role in the overall switching pattern of the contraceptive users in Sri Lanka, where switching from the first method and the penultimate method to the current method showed a substantial movement towards sterilization [6]. On the contrary, sterilization users in our study (Table 4) were mostly first time users (more than 70%) and the majority of them had been sterilized prior to the 1982 baseline survey, indicating the greater emphasis of the family planning programme on sterilization in the seventies and early eighties. However, those women who adopted sterilization after a pregnancy during the reference period preferred to adopt it in their third segment of use, after two or three method changes. Similar patterns were observed in a previous study [4], based on rural women in Bangladesh, where a higher proportion of switchers adopted female sterilization during their second method switch than during their first method switch.

Our study indicates that, since the popularization of the hormonal methods, very few women opted for sterilization. The switch from injectables to permanent methods is specially low. Similar results were found in a study on a rural population in Kenya [8], where injectables are rapidly becoming the first choice of many couples. Janowitz *et al.* [18] found that pill discontinuers in Brazil tended to switch to less-effective traditional methods if they were not ready for sterilization. The importance of hormonal methods as a convenient temporary form of contraception, helping couples to space their children, is universally accepted. Consistent use of pills and injectables over several years,

however, may eventually bring about a "weariness" or "fatigue" for the users [6-7]. This factor forces them to discontinue contraception completely in their late reproductive years when they should finally want to limit their family size, thus resulting in unwanted births if sterilization services were not readily available. On the other hand, over-dependence on sterilization has its disadvantages too, as reflected by the modest impact of the Indian family planning programme [19]. Permanent methods are popular only among couples with three or more children who want to limit their family size and are useless for the purpose of spacing childbirth [20]. The ideal family planning programme must be able to cater to both spacing and limiting requirements of the couples of reproductive age to effectively bring about a decline in fertility. Nevertheless, the demographic impact and the financial considerations of the programme do require that adequate attention should be given to sterilization.

As it was observed, discontinuation was highest among the traditional methods and condom users. Method failure was also highest among the traditional methods users, more than half of whom discontinued due to method failure (Fig. 4). Husband's objection is also an important reason for low use of contraceptive methods having minimal side-effects, such as condom, withdrawal and safe period. There were very few instances where the side-effects of condoms were mentioned as the reason for discontinuation, and almost no one gave this reason for safe period or withdrawal.

The potentially important role of safe period, withdrawal and condoms as interim methods of contraception must not be disregarded. Worldwide, there are 38 million withdrawal method users and 35 million couples using safe period method. Together, they account for 26 per cent of all temporary method use [21]. In Bangladesh, about 8 per cent of the married women of reproductive age use traditional methods, and 4 per cent use condoms [1]. The role of condoms as a preventive method for sexually transmitted diseases and Acquired Immuno-deficiency Syndrome (AIDS) is indisputable, and its importance is rapidly rising. Acknowledging that these methods are generally much less effective than other methods discussed above, we cannot, however,

forget the fact that they have no or very few side-effects and may be an attractive alternative for those who still desire more children and need only temporary contraception. Promotion of these methods calls for greater male involvement in the family planning programme in Bangladesh. Therefore, the service providers and health educators must reach out to the male population, convincing them of the advantages of male methods, and helping them to become more cooperative and supportive partners in their wives' overall reproductive life. Furthermore, promotion of the use of methods in combination, such as pills and condoms, may serve the dual purpose of effectively preventing pregnancy and STDs

The two most significant factors affecting multiple method use are the woman's education and her contact rate with the field workers. In fact, a recent study using data from the Extension Project areas, found that the odds of contraceptive discontinuation was substantially reduced if field workers can maintain regular contact with women [22].

An interesting aspect of the current study was the relation between multiple switching and induced abortion. Frequent switching was associated with a higher number of accidental pregnancies, and most probably, with higher rates of induced abortions. It was found that pregnancies, which occurred within three months after discontinuing contraception, had a higher probability of being terminated by induced abortion [23]. Our results show that not only method failures, but also side-effects and desire to switch to other methods compel women to temporarily drop their methods, thus bringing about accidental pregnancies.

In summary, our analysis shows that, in rural Bangladesh, changing methods is a common phenomenon among contraceptive users. The findings indicate that method switching is higher among women who: i) are better educated and ii) have been regularly contacted by family planning workers. It was also found that adopting a more convenient method is an important reason for switching. This indicates that rural women are consciously changing

methods by taking advantage of the array of contraceptive choices available. The fact remains, however, that although contraceptive side-effects are an important reason for switching from hormonal methods, only a small proportion of women are switching to sterilization or other temporary methods, like condom with fewer side-effects, resulting in an overall high rate of discontinuation. This points a major weakness in the Bangladesh family planning programme with regard to the popularization of long-term methods, such as IUD and female sterilization, and male methods, like condom, male sterilization, and withdrawal.

In relation to the goals and principles laid down by the ICPD, the Bangladesh family planning programme must be strengthened further to address the special and changing contraceptive needs of each couple - be it through better provision of long-term methods at outreach centres, or improved screening and counselling of the couples about the correct use, side-effects and effectiveness of various methods, given the reproductive goals, health status, and sexual behaviour of these couples.

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