

# DETERMINANTS OF CURRENT CONTRACEPTION USE AMONG THE EVER-MARRIED FEMALES IN RAJSHAHI DISTRICT OF BANGLADESH

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## Introduction

Any deliberate practice to reduce the risk of conception is considered as contraception. Contraceptive use is the most frequent proximate determinant of age at first birth and fertility. Contraception can delay the first birth and reduce fertility by either spacing or limiting births. Therefore, it is necessary to understand the levels and determinants of contraceptive use in order to formulate policies supporting proper strategies for raising contraceptive prevalence.

Contraceptive use is one of the crucial factors mediating between sexual activities and conception and it is one of the oldest methods of fertility reduction. The use of contraceptives is the most important factor that directly affects fertility. Rising use of contraception is undoubtedly the main proximate determinants of the ongoing fertility decline in developing countries like Bangladesh (Bongaarts, J 1991). Since independence, contraceptive prevalence has steadily grown in Bangladesh. Contraceptive Surveys conducted at the national level indicate a rising trend in the contraceptive prevalence rate.

Between 1975 and 1999-2000, current use of contraceptive methods has increased from 7.7% in 1975 to 53.8% in 1999-2000 (BDHS, 1999-2000).

Several authors have argued that Bangladeshi couples are not likely to adopt contraception until they experience improvements in their socio-economic condition (Khuda, B.J. Stoeckel and N. Piet-Pelon, 1997). Social and economic development as well as more widely diffused family planning services will contribute to a higher level of contraceptive use. Various studies indicate that current use of contraceptives and acceptance of small family norm depends on a

## Abstract

The aim of this paper is to investigate the determinants of current contraception use of the ever-married females. Using the information from 2000 ever married women of Rajshahi district, within the reproductive span (15-49 years), we found that among the factors determining contraceptive use among women, education appears to be the most significant; education is positively associated with contraceptive use. The region of residence, occupation of husband and bank account ownership, visits of family planning workers and talking to husbands about family planning also appear to be significant factors determining the level of contraceptive use among the women. Again, we found that, number of living children to a woman is also associated with the use of contraception. The result shows that women who have no living children are less likely to use any method. This study also envisages that, most women, both in rural

and urban areas use modern methods more frequently than traditional methods. This study intends to examine the current use of contraception and helps in understanding the influences of various socio-demographic factors in raising the current use of contraception in Rajshahi district.

**Key words and Phrases:**  
Contraception, Fertility preference, Rajshahi District, Logistic regression analysis

number of factors like education, place of residence, occupation and so on (Coutris, S.; Ullah and Chakraborty, 1993). Ross and E. Frankenberg (1993) observed that effort of family planning programs and socioeconomic conditions exert both independent and joint effects on family size. For instance, educational attainment of the woman is generally considered to be a useful index of socioeconomic status as well as of the level of overall social sophistication and therefore, it is inversely related to the desire for additional children and positively related to the use of contraception. Similarly, mobility of women outside the home creates opportunity to the improvement of women and increases the social status of poor women and consequently their attitude towards family planning as well as contraceptive use (Duza and M.Nag, 1993).

In addition, high infant and child mortality is also an important determinant of contraceptive use in Bangladesh. At least one out of ten children dies before completing the first birth anniversary. Child survival appears to play a major role in the acceptance and continuation of contraception (Mauldin W.P and S.J Segal, 1988). In this chapter, we have identified the factors influencing the current use of contraception during fertility transition in Bangladesh.

The determinants of contraceptive use are important in any effort to reduce fertility within a country. Caldwell and Caldwell (1987) pointed out that the path of fertility will be determined by the extent to which contraception substitutes abstinence, and ultimately by the extent to which it is more efficient than periodical abstinence as a means of fertility regulation.

Several studies have been carried out to investigate factors influencing the use of contraceptives. In Bangladesh such studies include that of Shahid and Chakraborty (1989), who used multivariate logistic regression technique to examine 15

socio-economic and demographic variables and assessed their relative importance in relation to contraceptive use. In another study, Kabir (1990) used the Bangladesh Fertility Survey in 1989 and the Bangladesh Demographic and Health Surveys (BDHS) during 1993-94 and 1996-97 to investigate the determinants of contraceptive use among the currently married women under 50 years of age. Bi-variate analyses were used to assess the differentials and multivariate analysis used to find the determinants of the current contraceptive use.

The major focus of the following sections is the examination of the extent of contraceptive use. This chapter examines the individual-level factors related to contraceptive use only.

## Data Collection and Methodology

### Data

The data was collected from a field survey conducted in the district of Rajshahi of Bangladesh under the project of UNFPA entitled "Strengthening the Department of Population Science and Human Resource Development". These data were collected from both rural and urban areas of Rajshahi district. Information was collected from 2000 ever-married women by interview method. Respondents were selected by purposive sampling method. For rural areas we had selected Baksimoil union of Mohanpur thana and for urban areas we have selected 3 wards of Rajshahi Metropolitan city corporation.

### Methodology

Percentage distribution and the average value are used to investigate the overview picture of the respondents for some selected socio-demographic characteristics.

Data analytic method envisaged in this paper is percentage distribution and logistic regression analysis. In logistic regression, just as linear regression, the codes for the

independent variables must be meaningful. We must decode the values of the independent variables by creating a new set of variables that correspond, in some way, to the original categories. When we have a variance with more than two categories, we must create a new variable to represent the categories. The number of new variables required to represent a categorical variable is one less than the number of categories. For example, if instead of the actual values for education of the respondents, we had values of 0, 1 depending on whether the value was 'no education', and 'some education'. The value 'no education' would be represented by codes of 0 and it is called reference category. If we use indicator variables for coding, the coefficient for the new variables represent the effect of each category compared to a reference category. The coefficient for 'some education' is the change in log odds when the lower primary is compared to no education. The coefficients for no education are necessarily zero, since it does not differ from itself. The logistic regression procedure will automatically create new variables for categorical variables.

### Current Use of Contraception

Women, at the time of the interview, were asked if they were currently doing something or using a method to delay or to avoid getting pregnant. This information is very useful as a measure of one of the proximate determinants of fertility as well as a measure of the coverage of family planning programmes (Bertrand et al., 1993). We computed contraceptive prevalence (the percentage of all married women currently using some type of contraception) according to their background characteristics. The percentages of results are presented in Table 1. The table shows that 69.4 percent of the married women were using contraception at the time of the interview.

Table 1 reveals that women residing in urban areas have a contraceptive prevalence of about 3.0 percentage

<i>Characteristics</i>	<i>No. of cases</i>	<i>Percentage currently using contraception</i>
<b>All (15-49)</b>	2000	1388 (69.4)
<b>Place of residence</b>		
Urban	1000	708 (70.8)
Rural	1000	680 (68.0)
<b>Education of wife</b>		
No education	373	234 (62.7)
Primary incomplete	233	151 (64.8)
Primary complete	347	240 (69.2)
Secondary and higher	1047	763 (72.9)
<b>Education of husband</b>		
No education	366	237 (64.8)
Primary incomplete	169	117 (69.2)
Primary complete	317	217 (68.5)
Secondary and higher	1148	817 (71.2)
<b>Religion</b>		
Muslims	1944	1346 (69.2)
Non-Muslims	56	42 (75.0)
<b>Electricity in the household</b>		
Yes	1559	1105 (70.9)
No	441	283 (64.2)
<b>Bank account ownership</b>		
Yes	396	302 (76.3)
No	1604	1086 (67.7)
<b>Age at first birth</b>		
<18	1015	726 (71.5)
18-19	178	128 (71.9)
20-21	306	229 (74.8)
22-24	191	142 (74.3)
25+	134	87 (64.9)
<b>Age at first marriage</b>		
<18	1571	1080 (69.2)
18-19	85	60 (70.5)
20-21	156	113 (72.4)
22-24	101	74 (73.2)
25+	87	54 (62.1)

Table 1: Percentage distribution of women currently using contraceptive methods by selected background variables (Part 1)

<b>Characteristics</b>	<b>No. of cases</b>	<b>Percentage currently using contraception</b>
<b>Current age</b>		
15-19	150	85 (56.7)
20-24	361	248 (68.7)
25-29	425	299 (70.4)
30-34	416	302 (72.6)
35-39	337	237 (70.3)
40-44	204	150 (73.5)
45-49	107	67 (62.6)
<b>Respondent's occupation</b>		
Worked	155	115 (74.2)
Did not work	1845	1273 (68.9)
<b>Husband's occupation</b>		
Not manual	876	627 (71.5)
Manual	1124	761 (67.7)
<b>Visits of family planning worker</b>		
Regularly	1014	750 (73.9)
Irregularly	986	638 (64.7)
<b>Discussion with husbands</b>		
Yes	1318	958 (72.3)
No	672	430 (63.9)
<b>Children ever born</b>		
0	176	76 (43.2)
1	546	400 (73.3)
2	661	481 (72.8)
3+	617	431 (69.9)
<b>Children surviving</b>		
0	182	82 (45.1)
1	578	418 (72.3)
2	675	496 (73.5)
3+	565	392 (69.4)
<b>Children dead</b>		
0	1848	1281 (69.3)
1	125	91 (72.8)
2	21	11 (52.4)
3+	6	5 (83.3)

*(Value in the parenthesis represents percentage)*

Table 1: Percentage distribution of women currently using contraceptive methods by selected background variables (Part 2)

points higher than those residing in rural areas. The highest prevalence is observed for women who had their first birth and marriage above the age of 18. It is also interesting to note that women who had their first marriage and birth below the age of 18 years have a low percentage of contraceptive use. However, this might reflect the interaction between early child bearing and no usage of contraception as low contraceptive prevalence leads to earlier birth.

Let us take a look at women's educational level, which is cited as the most important variable associated with contraceptive use in many countries. It has been observed that better educated women are more likely to use contraception (Rutenberg, N., M. Ayad, L.H. Ochoa, and M. Wilkinson (1999)). The percentage of women using contraception increases consistently with the level of education. The gap between users who attended at least secondary school and those who never attended any type of schooling is enormous (10.2 percentage points). This is somehow also true when the education of their life partners is considered.

Religious differentials in contraceptive use have been confirmed in many societies. With regard to religion, Non-Muslims

(75.0 percent) have higher contraceptive use than Muslim women (69.2 percent). In Muslim culture, people believe that God has control over the human reproductive system or that children are a gift from God. Therefore, they should not prevent a child from coming into the world (Omari,1989). Most women with Islamic faiths are likely to advocate this ideology.

It is observed that women who have electricity in their house tend to have higher contraceptive use rate than those who reported no electricity in their house. This may be due to the fact that electricity is itself an indicator of modernization and may be useful for motivating and familiarization of wives and husbands about the current use of contraception. It is also observed from Table 1 that current use rate is higher among women who have bank account ownership (76.3 percent) than those who did not have bank account ownership (67.7 percent). This may due to the fact that women having bank accounts are more aware.

Contraceptive use is higher among women aged 40-44 years than among women either younger or older than that. Figure 1 presents the contraceptive prevalence by five-year age groups of women. Contraceptive prevalence is lowest

for the age group 15-19, increases gradually to reach a maximum at the age group 40-44, after which it decreases consistently to the age group 45-49. The reason of such findings may be due to the fact that younger women are seeking children but the women with edged reproductive span (40-44) might have their desired number of children. Thereafter, some women in the age group 45-49 might have faced menopause and so the contraception-using rate is decreased dramatically.

Contraceptive use rate increase with visits of family planning workers, indicating a positive relationship between family planning workers' visits to the couple's house and contraceptive use. The use rate is considerable higher (about 73.9 percent) for those respondents where family-planning workers visit their homes regularly. Again among the women who have discussed family planning with their husbands are more likely to use contraception.

Working status of women is often considered to be a determining factor of contraceptive use. The result demonstrates that working women are more likely to currently use contraception compared to those who do not. The obtained results divulge that the contraceptive use rate is the highest among those

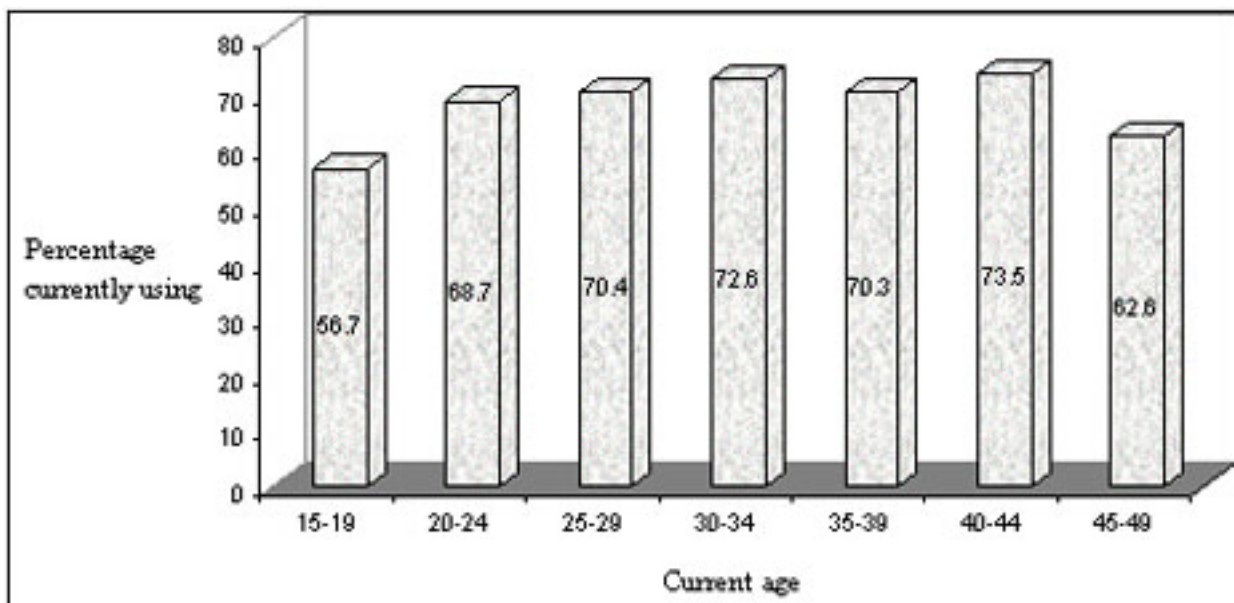


Figure 1: Percentage distribution of women currently using contraception by current age.

whose husbands are not manual workers (Serviceman, businesses man, and others).

Finally, it is important to examine the association between the number of surviving children to a woman and contraceptive use. The number of living children to a woman has been found to be associated with the use of contraception (Rutenberg et al., 1991; Robey et al., 1992). The result shows that women who have no living children are less likely to use any method. The use rate increases to a maximum of 73.5 percent for those women with 2 living children and then declined to 72.3 percent for those having 1 living child.

### Contraceptive Method Mix

It is important to examine the specific contraceptive methods used, since different methods have different implications for family planning programmes. Table 2

presents the percentage distribution of women using contraception at the time of the interview according to the method they used and their place of residence. It seems that most women both in rural and urban areas use modern methods more frequently than traditional methods. According to this table 62.7 percent women use modern methods and an additional 6.8 percent used traditional methods, for a total of 69.4 percent of women who used any contraceptive methods. Notably, use of traditional methods is higher in urban areas (7.8 percent) than in rural areas (5.7 percent). Urban contraceptive use exceeds rural use, with 70.8 percent of urban women using contraception compared to 68.0 percent of rural women. Contraceptive use is almost 3.0 percentage points higher in urban areas than in rural areas.

The pill is the most popular method for women in urban areas (37.6 percent) followed by condoms

(20.4 percent). For women in rural areas all three methods i.e. pill (37.8 percent), condom (14.4 percent) and injection (6.1 percent) are popular. In general, the pill is the most popular followed by condoms. Several factors may account for the demanding popularity of the pill; the single most significant benefit of the pill is its almost 100 percent effectiveness in preventing pregnancy and thereby removing anxiety about the risk of unplanned pregnancy. Apart from this, the pill has a number of non-contraceptive benefits and is quite easy to obtain.

Injectable contraceptives are popular in rural areas due to the fact that they can be used without the agreement of the husband or partner. Many men in rural areas do not want their sexual partner to use any contraceptives methods. Men would like many children as a future labor force or future social security.

<i>Contraceptive method</i>	<i>All</i>	<i>Residence</i>	
		<i>Urban</i>	<i>Rural</i>
<b>Any modern method use</b>	1253 (62.7)	630 (63.0)	623 (62.3)
Pill	754 (37.7)	376 (37.6)	378 (37.8)
Condom	348 (17.4)	204 (20.4)	144 (14.4)
Injectable	102 (5.1)	41 (4.1)	61 (6.1)
IUD	38 (1.9)	6 (0.6)	32 (3.2)
Vasectomy/ Tubectomy	11 (0.6)	3 (0.3)	8 (0.8)
<b>Any traditional method</b>	135 (6.8)	78 (7.8)	57(5.7)
Safe period	38 (1.9)	22 (2.2)	16 (1.6)
Withdrawal	9 (0.5)	6 (0.6)	3 (0.3)
Other	88 (4.4)	50 (5.0)	38 (3.8)
<b>Any method</b>	1388 (69.4)	708 (70.9)	680 (68.0)
<b>No method</b>	612 (30.6)	292 (29.2)	320 (32.0)
<b>Total</b>	100.0	100.0	100.0
<b>N</b>	2000	1000	1000

*(Value with parenthesis represents percentage)*

Table 2: Percentage distribution of women currently using a contraceptive method according to the methods used and their place of residence

### Contraceptive Use in Relation to Self-reputed Need

In this section, fertility preferences and contraceptive use are discussed jointly to analyze contraception in relation to need, namely the desire among women to avoid future childbearing altogether.

Table 3 shows the relationship between contraceptive use and self-reported desire to limit family size. The entire analysis is done for those women who have at least one surviving child. Among the women, who said they wanted no more children, only 75.3 per cent were practicing contraception. This compares to a figure of 69.5 per cent for those who said they wanted another child at some time in the future. Thus, "limiters" and "spacers" were found to be quite close to contraceptives users.

### Multivariate Analysis of the Determinants of Current Contraceptive Use

Binary logistic regression is the multivariate analysis technique used to predict the presence or absence of a characteristic or outcome based on values of a set of predictor variables. It is similar to linear regression model but is suited to models where the dependent variables are dichotomous. In this section, logistic regression will be used to examine the relative importance of the determinants of contraceptive use. The response variable is used or non-use of contraceptives at the time of the survey. Table 1 describes the data used for the multivariate analysis.

### Results of Logistic Regression Analysis

Table 4 (next 2 pages) presents the model for the determinants of current contraceptive use for women. Nine variables were found to influence the use of contraceptives significantly. The analysis indicates that women's education is the strongest predictor of the use of contraceptives. Women with 'incomplete primary' education were 1.03 times more likely to use contraceptives than women who had no education. The likelihood of using contraceptives increases further as the educational level increases beyond 'lower primary'. Women who had at least secondary and higher education, were 2.13 times more likely to use contraceptives than women without education. It is interesting to note that the education of a woman's partner has also impact independently of her own educational level. The direction of this effect is the same, although the odds ratio is weaker. The fact that both the education of women and of their partners was significant indicates that these two variables have separate effects in determining contraceptive use. The prevalence of contraception depends to a large extent on the type of the place of residence. Women residing in rural areas are 0.79 times less likely to use contraception than their counterparts residing in urban areas.

Non-Muslim women are 1.36 times more likely to use contraceptives than Muslim women. It seems that those respondents who have electricity in their house were 1.20 times more likely to use contraception than those respondents who have not electricity in their houses. It seems that respondents who have bank account ownership were 1.29 times more

likely to use contraception than those who have not, which may be due to the awareness of these women.

Again, the number of living children influences the use of contraception. Women with 1 child are 3.37 times more likely to use contraceptives than women without surviving children and women with 2 children are 3.86 times more likely to use contraceptives than women without surviving children. Women with 3 and more surviving children are 3.50 times more likely to use contraceptives than women without any surviving child. Women with one child were less likely to use contraception, while the chance of using a method increased as a woman's family becomes bigger than two children. Further occupation of husbands is found to have significant effect on contraception use. Respondents whose husbands are manual workers have 0.74 times less use of contraception than those whose husbands are not manual workers.

From the results of logistic regression analysis it also appears that those respondents where family planning workers do not visit their houses are 0.49 times less likely to use contraception than those where FP workers visit their house. In view of the likelihood that the visits of family planning workers can motivate the women by counseling on family planning methods and disseminating family planning services and supplies to achieve their widespread availability. Talking to husband about FP has also a net effect on current use of contraception. Among the women who have not discussed FP with their husbands they are 0.81 times more likely to use

<i>Fertility preference</i>	<i>No. of cases</i>	<i>Percentage currently using contraception according to their fertility preference</i>
Want no more:	650	490 (75.3)
Want more:	1174	816 (69.5)

Table 3: Percentage of women using contraception according to their fertility preference

<i>Characteristics</i>	<i>Odds Ratio [Exp (B)]</i>	<i>95% confidence interval</i>	
		<i>Lower</i>	<i>Upper</i>
<b>Education of respondents-</b>			
No education (Ref.)	1.000		
Incomplete primary	**1.03	0.665	1.602
Complete primary	*1.52	1.006	2.301
Secondary and higher	*2.13	1.398	3.248
<b>Education of husbands-</b>			
No education (Ref.)	1.000		
Incomplete primary	1.03	0.589	1.368
Complete primary	1.01	0.527	1.229
Secondary and higher	1.17	0.714	1.922
<b>Residence-</b>			
Urban (Ref.)	1.000		
Rural	0.79*	0.620	1.021
<b>Religion-</b>			
Muslims (Ref.)	1.000		
Non-Muslims	1.36	0.721	2.753
<b>Electricity in the household-</b>			
No (Ref.)	1.000		
Yes	1.201	0.918	1.572
<b>Bank account ownership-</b>			
No (Ref.)	1.000		
Yes	**1.290	0.964	1.726
<b>Children ever born-</b>			
None (Ref.)	1.000		
1	*3.605	2.532	5.133
2	3.516	2.493	4.959
3+	**3.049	2.161	4.302
<b>Children surviving-</b>			
None (Ref.)	1.000		
1	3.37	2.373	4.788
2	*3.86	2.718	5.486
3+	***3.50	2.430	5.049

Table 4: Odds ratio associated with the determinants of current contraceptive use for married women (Part 1)



Characteristics	Odds Ratio [Exp (β)]	95% confidence interval	
		Lower	Upper
<b>Children dead-</b>			
None (Ref.)	1.000		
1	1.26	0.828	1.904
2	0.55	0.223	1.331
3+	2.50	0.282	22.142
<b>Visits of family planning workers</b>			
Regularly (Ref.)	1.000		
Irregularly	0.49	0.715	1.091
<b>Talked to husband about FP</b>			
No (Ref.)	1.000		
Yes	*0.81	1.032	1.657
<b>Occupation of respondents-</b>			
Did not work (Ref.)	1.000		
Worked	1.115	0.782	1.592
<b>Occupation of husbands-</b>			
Non -manual (Ref.)	1.000		
Manual	**0.740	0.611	.897
<b>Constant</b>	<b>**2.159</b>		

Note: Ref = Reference Category. Here, \*\*\*, \*\* and \* indicates  $p < .001$  (highly significant),  $p < .01$  (significant) and  $p < .05$  (less significant).

Table 4: Odds ratio associated with the determinants of current contraceptive use for married women (Part 2)

contraception than those who have discussed FP.

Although, age at first birth did not show any significance (Table 5, p35), age at first marriage, and current age are highly related to contraceptive use. Women who had first marriage between age 18 and 19 were 1.23 times more likely to use contraceptives than those who had the same experience below age 18. The odds ratio increases as the age at first marriage rises. This shows that women who marry at an early age do not do something to plan their families. This was also found in bivariate analysis done earlier.

### Conclusions and Policy Implications

In this study a limited attempt has been made to investigate some important aspects of contraceptive behavior among married women of our study area. The analysis shows that, use of contraception is low in our study area. According to survey data, the percentages of women aged 15-49 currently using any method is 69.4 respectively. Methods most widely used are the pill and condom. The common traditional methods are periodic abstinence and withdrawal. Notably, use of traditional methods is higher

in urban areas, which suggests some Bangladeshi couples may be discriminating in their choice of traditional methods. However, in general the main reasons for not using contraceptives among women may be attributed to several socio-economic and cultural factors, such as education, religiosity, social conservativeness, husband-wife communication, occupation, economic condition, including a need for more children, and opposition by the respondent to contraception.

Among the factors determining contraceptive use among women, education appears to be the most

significant; education is positively associated with contraceptive use. Evidence suggests that education not only increases awareness of social mobility and creates a new outlook and rationalism among couples, but also reduces desired family size by raising desired living standards, bringing about a better understanding of the reproductive process, better knowledge about health care and access to modern and effective means of birth control. The region of residence, occupation of husband and bank account ownership, visits of family planning workers and talking to husbands about family planning also appear to be significant factors determining the level of contraceptive use among the women.

A multivariate analysis of the determinants of current contraceptive use among women showed that for women, 9 out of 16 variables chosen influenced the use of contraception significantly. Women residing in rural areas, with no education, no bank account ownership, married below age 18 or without a living child, and not discussing FP with their husbands, are less likely to use contraception than other women.

In the light of the above discussions there are clear policy and programmatic implications. Any further acceleration in contraceptive prevalence and fertility decline will require major efforts directed at improving women's status, increasing access to the media and improving programme efforts in the low performing divisions especially in rural areas. The government of Bangladesh should aim not only at consolidating the level of success it has already achieved in family planning a part of the broader reproductive health service package. Priority should also be given to development in the social sector, including enhancement of women's status, especially through increased female educational and employment opportunities, and an improvement in access to media. Such investments, in addition to their direct benefits,

would further accelerate the process of rising use of contraception and further the process of fertility decline in the country.

1. Retrospective determinants: Demographic events that occurred in a given past period, generally terminating at the time of the survey

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<i>Characteristics</i>	<i>Odds Ratio [Exp (β)]</i>	<i>95%Confidence interval</i>	
		<i>Lower</i>	<i>Upper</i>
<b>Current age-</b>			
15-19 (Ref.)	1.000		
20-24	1.627	1.091	2.428
25-29	1.720	1.157	2.556
30-34	***1.979	1.327	2.952
35-39	**1.760	1.168	2.651
40-44	*2.035	1.288	3.267
45-49	1.177	0.702	1.973
<b>Age at first marriage-</b>			
<18 (Ref.)	1.000		
18-19	1.23	0.627	1.878
20-21	*1.69	1.029	1.978
22-24	**1.87	1.321	2.065
25+	0.87	0.336	1.123
<b>Age at first birth-</b>			
<18 (Ref.)	1.000		
18-19	1.143	0.802	1.629
20-21	1.408	1.029	1.928
22-24	1.604	1.057	2.435
25+	1.101	0.662	1.030

Note: Ref = Reference Category. Here \*\*\*, \*\* and \* indicates  $p < .001$  (highly significant),  $p < .01$  (significant) and  $p < .05$  (less significant).

Table 5: Odds ratio associated with the retrospective determinants<sup>1</sup> of current contraceptive use for women.