

*Full length Research Paper*

# **A study on the factors affecting the use of contraception in Bangladesh**

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**Adolescents represent approximately one-fourth of the Bangladesh population. This large group is not adequate prepare for reproductive and sexual life, since its members lack basics information about their bodies, sexuality, contraception and sexually transmitted infections including HIV/AIDS. So, the main purpose of this study is to identify the social, economic and demographic characteristics which are responsible for the selection of contraception methods. To do so, required data have been used from Bangladesh Demographic and Health Survey, 2004. The statistical techniques, Chi-square test has been used to find the association among the variables and logistic regression analysis has been used to identify among those factors which are responsible for the use of contraception among ever-married women in their reproductive age. The study results reveal that most of the women (57.40%) used contraception, and the administrative areas, educational level, visits of health workers, religion, place of residence, number of living children, age, and employment status have significant effects on the use of contraception.**

**Key words:** Family Planning, Contraception Use, Logistic Regression Model, Odds Ratio

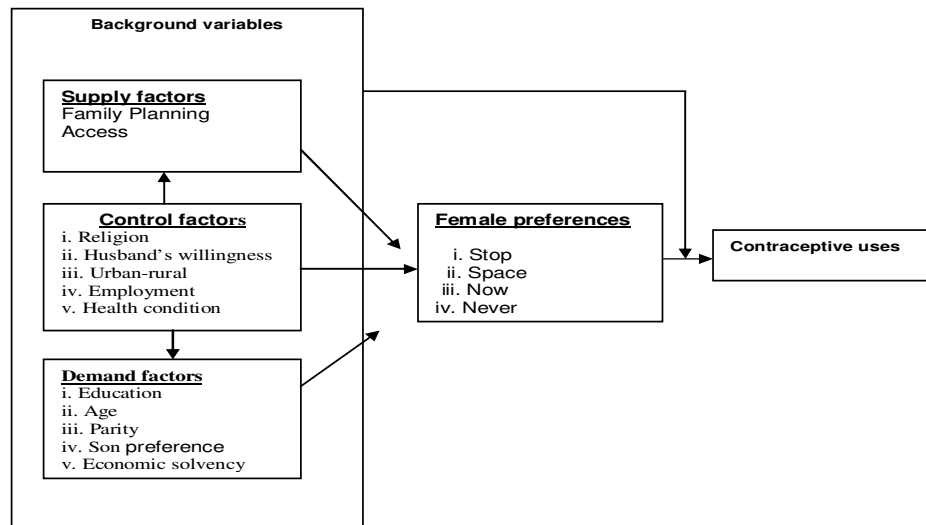
## **INTRODUCTION**

Bangladesh is a densely populated (1035/sq. km) country with limited resources and its vast population (149 million) ranks as the seventh populous country in the world (PRB, 2007). This country currently faces many significant population and development problems. Despite the wide variety of socio-economic challenges facing Bangladesh recent years, the National Family Planning (FP) Program has made remarkable steps toward higher quality of life for its people. Since the independence, both Government of Bangladesh (GOB) and non-government organizations (NGOs) have attempted to strengthen the national family planning program through increased allocation of resources for family planning activities, expanded use of the multi-sectoral approach, the use of mass media campaigns, and the promotion of increased participation of voluntary and private agencies in the national population program.

In addition, family planning program has been expanded to include field workers who are trained to provide at the door-step services and to inform modern contraceptive methods. As a result, the rate of contraceptive use among married couples of reproductive age (15-49) years increased from 13.80% in 1983 to 47.00% in 2004 and a decline in the total fertility rates (TFR) from 5.1 in 1984-1988 to 3.00 in 2004 (Mitra *et al.*, 2005). The country continues to have considerable unmet contraceptive needs. Addressing unmet contraceptive needs is a major issue, because contraceptive use is one of the most important methods for reducing fertility and for preventing the spread HIV/AIDS and sexually transmitted infections (STI). Although every eligible couple knew about modern contraceptive methods, but of them 58% used all method and 47% used the modern methods (PRB, 2007). Among the methods, oral pill is the highest used (50.10%) contraception method, condom is the fifth ranked (5.30%), whereas, vasectomy is used by <1.00% (Islam, 2000). The above pictures conclude that the contraceptive using rate is increasing gradually. In this

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**Figure 1:** The conceptual framework of contraceptive use determination  
**Source:** Dodoo and Tempenis (2002).

regards, employment status, membership of the development groups, total number of living children, approval of family planning by the respondents, and their husbands have significant positive effects on the current use of contraception. Indeed, the powerful effect of education on reproductive behavior is undisputed (Khuda, 2000). Despite the fact that men have practiced birth control for years, and have generally been excluded from organized family planning programs. In Bangladesh, men's potentially positive role in family planning has also been neglected because of female bias in family planning program. The present contribution of male methods to the overall contraceptive use is strikingly low. This militates against the principle of gender equity in method use. The ultimate success of family planning based on total family welfare rests on maintaining a balance in the choice of a mix of gender-oriented contraceptives. A framework has been drawn by Dodoo and Tempenis (2002) where identified the process to contraceptive determination. But, Bangladesh is experiencing some different situations that have been indicated (Figure 1) clearly the process to selection contraception and determination. In the developed countries, high level of contraceptive use demonstrates the compliance of equity in the use of gender-specific contraceptives (Hossain, 2003). To reach the expected level fertility and other demographic goals by 2015, the current use of contraceptives needs to be enhanced by identifying the most accountable factors. This study is, therefore, important because it is an attempt to identify those factors so that it will be helpful to undertake strategic and programmatic measures to enhance the use of contraceptives to people in Bangladesh. Keeping in view the above points, the present study has been designed to find out the contraceptive prevalence and identifying the different

variables which affect more in this connection among the population of Bangladesh.

## DATA AND METHODS

The present study was conducted among the ever married women in their reproductive age group (15-49) years in Bangladesh. The required data and necessary information have been taken from Bangladesh Demographic and Health Survey (Mitra *et al.*, 2004). It is the fourth survey in a series of national-level population and health survey utilized a multistage cluster sample, based on the Bangladesh Census, 2001. In order to identify the association among the variables, the Chi-square test has been performed. Again, the logistic regression analysis has been used to identify the risk factors and to predict the probability of success. The general logistic model expresses a qualitative dependent variable as a function of several independent variables, both qualitative and quantitative (Fox, 1984). Let  $P$  is the probability of use of contraception, then

$$P = [1 + \exp(-\beta X)]^{-1} \text{ where, } \beta \text{ is a vector of the unknown coefficient and } X \text{ is a vector of covariates that affect the use of contraception. Finally, the logistic regression model can be expressed as:}$$

$$\ln\left(\frac{P_i}{1-P_i}\right) = \beta X = \sum_{j=0}^k \beta_j X_{ji} \text{ which express the log}$$

odds of current users as a linear function of the dependent variable. The dependent variable is a dichotomous response variable that was assigned the value 1 if the respondent was using any method of contraception and 0 for not using a method. The

explanatory variables were: age in years, administrative areas, educational level, visits of family planning workers, religion, place of residence, number of living children, and employment status. Data compilation and analysis was done by using SPSS 10.0 package.

### Family Planning Programs in Bangladesh

Family planning efforts in Bangladesh began in the early 1950s with voluntary efforts of a group of social and medical workers. But, India was the first country in the world to formulate the National family planning program in the year 1952 with the object of reducing the birth rate of the extent necessary to stabilize the population at a level consistent with requirement of National economy (Government of India, 2000). The family planning program of Bangladesh has evolved through a series of development phases that took place. The family planning Program has undergone a number of transitional phases. The first phase was during 1953-1959. This effort was limited to the small-scale contraceptive distribution services in urban areas particularly through hospitals and clinics as voluntary and semi-government efforts. In the second phase (1960-1964), government sponsored clinic-based family planning activities under health services started and set up a target of providing family planning services to 6.70% eligible couples. During the third phase (1965-1970), it was launched throughout the country as a priority program. Full time field staff and part-time village organizers known as *dai* (a female village mid-wife) were recruited and trained to provide motivation and service close to the doorsteps of the rural people and selected clinical and non-clinical methods offered. The program came to a standstill during the Liberation War in 1971. In the fourth phase (1972-1974), it services functionally integrated with health services at the field level. Oral pill was introduced in that program as a method of contraception. In the fifth phase (1975-1980), full-time male and female field functionaries were recruited on regular basis to cause a thrust of the maternal and child health (MCH)-based multi-sectoral program in rural area. In the sixth phase (1980-1985), Upazila family planning Committee had been formed to be chaired by the chairman of Upazila Parishad for facilitating implementation of the functionally integrated program at the local level. In the seventh phase (1985-1990), intensive it was launched through Union Health and Family Welfare Centers (UH and FWC) and Satellite Clinic (SC) in remote and rural areas by involving community leaders and non-government organizations (NGOs). The eighth phase (1990-1995) aimed at reduction of rapid growth of population through intensive service delivery and community participation by enhancing women's status through education and participation in social, economic and political life. The program had been implemented through an interim plan

during 1995-1997. During the ninth phase (1998-2003), health and population sector program (HPSP) was introduced. The program specified that the government of Bangladesh and non-government organizations (NGOs) would continue to collaborate on providing contraceptives services in both urban and rural areas (GOB, 1998). Finally, the tenth phase (2003-2006), Government of Bangladesh launched health, nutrition and population sector program to overcome the multidimensional problems and to meet the challenge according to the spirit of the International Conference on Population and Development (ICPD) (HNPS, 2003).

## RESULTS

### Descriptive Analysis

Table 1 shows the results of the bivariate analysis (Chi-square test). Although the contraceptive use is low (57.40%) among the studied women, there are significant variations in use among women with different socio-economic and demographic characteristics. The current contraceptive use rate was found to be associated with the respondent's age, administrative areas, educational level, visits of family planning workers, religion, place of residence, and number of living children of the respondents. The levels of education seem to have a positive effect on the current use of contraception. Urban residents surpass rural residents in current use of contraception. With an increase in the frequency of visits by family planning workers, contraceptive use increases rapidly. Non-Muslims had higher current use rates than Muslim women. Administrative division also had a substantial effect on current use: a lower use rate was observed in the Sylhet division. The differences of contraceptive use were found to be statistically significant ( $p < .000$ ).

### Regression Analysis

The results of logistic regression analysis are presented in Table 2 in the form of logistic regression coefficients, standard error of these estimates, wald statistics, p-value, and relative odds ratio corresponding to the selected explanatory variables. From the results of the logistic regression analysis, it is observed that the effect of the respondent's education on the use of contraceptive is found to be the most important one. The women with primary, secondary, and higher secondary and above educational levels are 1.192, 1.560 and 2.476 times respectively more likely to practice contraception than those who have no education. As expected, education increases receptivity to "new technologies", including awareness and use of contraception. The analysis further shows that region plays an important role in current use

**Table 1:** Distribution of the respondents by background characteristics

<b>Background characteristics</b>	<b>Number of respondents</b>	<b>Currently using contraceptives (%)</b>	<b>Chi-square (<math>\chi^2</math>) value</b>	<b>Degrees of freedom</b>
<b>Age in Years</b>				6
10-14	115	35.7		
15-19	1351	47.2	298.092	
20-24	1991	56.1	(.000)	
25-29	1863	63.4		
30-34	1707	67.2		
35-39	1447	65.7		
40+	2257	48.0		
<b>Administrative Areas</b>			5	
Dhaka	2433	59.6		
Chittagong	1915	48.9	439.592	
Khulna	1612	64.1	(.000)	
Rajshahi	2427	68.1		
Sylhet	1062	34.2		
Barisal	1282	56.2		
<b>Educational Levels</b>				3
No education	4238	53.6		
Primary	3155	57.4	71.198	
Secondary	2698	60.6	(.000)	
Higher secondary and above	640	68.9		
<b>Visits of Family Planning Workers</b>			1	
No	9322	54.3	270.537	
Yes	1409	77.6	(.000)	
<b>Religion</b>			22.337	1
Muslim	9539	56.6	(.000)	
Non-Muslim	1192	63.8		
<b>Place of Residence</b>			65.572	1
Urban	3676	62.7	(.000)	
Rural	7055	54.6		
<b>Number of Living Children</b>			2	
Exactly 2	2571	64.2		
Below 2	3221	44.5	316.730	
Above 2	4939	62.2	(.000)	
<b>Employment Status</b>				1
No	8303	57.5	0.318	
Yes	2428	56.9	(0.573)	
<b>All</b>	10,731	57.4		

**Note:** Value within the parenthesis indicates significance level, and currently using contraceptive has taken as the dependent variable.

**Table 2.** Logistic regression estimates of regression coefficient and relative OR associated with current use of contraceptive

Background characteristics	Coefficient ( $\beta$ )	Standard error of estimates	Wald statistics	p value	Odds ratio [ $Exp(\beta)$ ]
<b>Age in years</b>					
25-29®	-	-	-	-	1.000
10-14	-0.440	0.213	4.272	0.039	0.644
15-19	0.009	0.089	0.011	0.917	1.009
20-24	0.018	0.073	0.058	0.810	1.018
30-34	0.081	0.076	1.133	0.287	1.084
35-39	-0.010	0.080	0.014	0.905	0.991
40+	-0.794	0.072	122.937	0.000	0.452
<b>Administrative Areas</b>					
Dhaka®	-	-	-	-	1.000
Chittagong	-0.499	0.065	58.024	0.000	0.607
Khulna	0.231	0.071	10.704	0.001	1.259
Rajshahi	0.496	0.064	60.611	0.000	1.642
Sylhet	-1.097	0.082	177.701	0.000	0.334
Barisal	-0.153	0.075	4.194	0.041	0.858
<b>Educational Levels</b>					
No education ®	-	-	-	-	1.000
Primary	0.176	0.053	11.125	0.001	1.192
Secondary	0.445	0.059	56.196	0.000	1.560
Higher secondary and above	0.907	0.102	79.139	0.000	2.476
<b>Visits of Family Planning workers</b>					
No ®	-	-	-	-	1.000
Yes	0.909	0.071	166.076	0.000	2.481
<b>Religion</b>					
Muslim ®	-	-	-	-	1.000
Non-Muslim	0.482	0.070	47.060	0.000	1.619
<b>Place of Residence</b>					
Urban ®	-	-	-	-	1.000
Rural	-0.391	0.046	71.058	0.000	0.677
<b>Number of Living Children</b>					
Exactly 2 ®	-	-	-	-	1.000
Below 2	-0.905	0.065	193.596	0.000	0.404
Above 2	0.380	0.060	40.613	0.000	1.462
<b>Employment</b>					
No ®	-	-	-	-	1.000
Yes	-0.130	0.052	6.284	0.012	0.878

**Note:** ® indicates reference category.

of contraception. The odds ratio corresponding to administrative divisions-Chittagong, Khulna, Rajshahi, Sylhet, and Barisal are 0.607, 1.259, 1.642, 0.334 and 0.858 respectively. It clearly indicates that the current use of contraception among ever-married women under Khulna and Rajshahi divisions are 1.259 and 1.642 times respectively higher than that of the women in Dhaka division while the contraception use among the women of

Chittagong, Sylhet and Barisal divisions are 0.607, 0.334 and 0.858 times respectively less than that of the women of Dhaka division. In case of religion, the odds ratio corresponding to Non-Muslim women is 1.619 which indicates the use of contraception among Non-Muslim women is 1.619 times higher than that of Muslim women. The coefficients of logistic regression corresponding to the total number of living children are computed and the

results are statistically significant. The odds ratio indicates the eligible women having less than two children and having more than two children are likely to go 0.404 times less and 1.462 times more respectively for the use of contraception methods than that of the women having exactly two children. Employment status of ever-married women has significant effect on the use of contraception methods. The result indicates that the use of contraception among currently working women is 0.878 times lower than that of non-working women.

## DISCUSSION

The extent of acceptance of contraceptive methods still varies within societies and also among different religions. The responsible factors for such varied picture operate at the individual, family and community level with their roots in the socio-economic and cultural items of Bangladesh. The probability of contraceptive use rises significantly with age up to 39 years, and then declines and significantly higher among those women who want no more children and who want children after two years than those who want children within two years. Women having access to mass media have a statistically higher probability of contraceptive use than those without access. The probability of contraceptive use is significantly higher (over three times) among women reporting spousal communication than those reporting none. The probability of contraceptive use rises significantly with education. Clearly, those with schooling beyond the primary level have a higher probability of contraceptive use than those without. The above findings indicate that the empowerment of women as measured by education, employment, decision making status is still a major concern in Bangladesh. It is evident from the analysis that there are regional variations in contraceptive use, with Khulna and Rajshahi divisions having the highest prevalence and Chittagong, Sylhet and Barisal divisions having the lowest prevalence. Therefore, in order to achieve the replacement level fertility, the family planning program should be enhanced in Chittagong, Sylhet and Barisal divisions. The frequency of visits of health workers is significantly and positively related to current use of contraceptive methods. It is likely that the visits of health workers provide opportunities to motivate women by providing them with counseling on family planning methods and services, and distributing supplies on a widespread scale increases their availability. Muslim women should be encouraged towards family planning program through education and awareness. The family planning program should widely be enhanced especially among the women having less than two children. To get more effective and fruitful responses from family planning program, female empowerment through education as well as service is necessary.

## CONCLUSION

In this study a limited attempt has been made to investigate some important aspects of contraceptive behavior among ever married women in Bangladesh. The factors that are influencing on the use of different types of contraceptive methods are investigated. Choice of contraception methods depends on socio-economic characteristics of the events. The survey data documented the contribution of health and family planning field workers in rural areas of the country and the commercial sections in urban areas as the sources of non-clinical methods. The results of our study indicate that, despite wide-spread publicity about modern contraceptive methods, traditional methods account for substantial proportion of contraceptive use. Program managers, therefore, should give importance to this fact. A more systematic approach of family planning service delivery programs could increase contraceptive prevalence rates in Bangladesh. Improvement of the status of women in the family and society in general, and enhancement of contraceptive supply through visits by field workers to the couples' home would make the family planning program more effective and successful.

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