# Degree and Determinants of Men's Contraceptive Knowledge in Bangladesh

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# ABSTRACT

We examined the degree of men's modern contraceptive knowledge in Bangladesh and the associated determinants using the 1999-2000 DHS. The degree of knowledge was measured by the reported number of modern methods known among men aged 15-59 years. Although contraceptive knowledge was universal in Bangladesh, the degree of knowledge differed among certain subgroups. About 19% of men reported having had heard of 4-5 modern methods (mean: 6.9). Results from multinomial regression analyses showed that older, educated and those who were currently using modern methods were more likely to have had reported a high degree of knowledge (p<0.001). We conclude that men who had a low degree of knowledge seem not properly informed about the wide range of contraceptive options. It is imperative that family planning intervention strategies in Bangladesh should focus on the degree of contraceptive knowledge to improve the uptake of more male-based modern methods.

# Degree and Determinants of Men's Contraceptive Knowledge in Bangladesh

Knowledge of at least one method is effectively universal in Bangladesh. Unfortunately, the existence of such knowledge had little effect on the use of a wide range of particularly male methods; many couples restrict their use to mostly pill in Bangladesh. The recent Demographic and Health Surveys (DHS) in Bangladesh (1999-2000) reported that 23% of currently married women used pill, 7% used injectables, nearly 1% used IUD and condom use accounted only 4% and male sterilization was below 1% (BDHS, 2001). Although the DHS conducted in Bangladesh made efforts to collect data on men's knowledge in family planning (FP) and reproductive health (RH), such data has not been analyzed systematically. For instance, although these surveys demonstrated universal contraceptive knowledge among men and women there is hardly any improvement in the uptake of especially male methods. The reasons for the poor acceptance of male methods, so far, remain largely unknown. An attempt is made in this paper to examine the degree of men's contraceptive knowledge and the associated determinants in Bangladesh using the data from the recently conducted DHS (1999-2000). We believe the results of this study might help policy planners and program managers to identify the gaps that exist in the provision of a wide range of modern contraceptive information and develop strategies to improve the use of mainly male methods.

# Background

Provision of appropriate contraceptive knowledge is essential to enhance male participation in reproductive health (RH). The importance of involving men in RH and family planning (FP) is widely discussed in the literature, especially after the proceedings of the ICPD conferences (Adewuyi and Ogunjuyigbe, 2003; Oyediran et al., 2002; Petro-Nustas, 1999; Herndon, 1998). Until recently, most of the large-scale family planning surveys - the Knowledge, Attitudes and Practice surveys; the World Fertility Surveys; the Contraceptive Prevalence Surveys; and the first rounds of the DHS collected RH/FP data from only women (Drennan, 1998). The limited options of modern male methods may be the reason why these surveys have paid little attention to understanding men's knowledge, attitudes and practice of contraception (Ringheim, 1993). A comparative study of the DHS data pointed out that in 15 out of the 21 countries more than 90 percent of men recall of knowing at least one contraceptive method (Drennen, 1998). In other words, the DHS data on knowledge do not necessarily mean that the respondent knows how to use the method, understands its effectiveness or side effects, or approves of it (Robey and Drennan, 1998; Ezeh et al., 1996). Other studies from Africa and the Middle-East pointed out that men reported even wrong and inconsistent information regarding methods that reflected poor use of contraception (Ghazal-Aswad et al., 2002; Petro-Nustas, 1999; McGinn et al., 1989). Few other studies conducted elsewhere measured male knowledge using similar approaches (for example, Ghazal-Aswad et al., 2002; Oyediran et al., 2002; Ashraf et al., 2000; Islam, 2000; Odimegwu, 1999; Mbizvo and Adamchak, 1991; Oni and McCarthy, 19911; Khalifa, 1988) except the study by Adewuyi and Ogunjuyigbe (2003) that used the same question to measure knowledge but reconfirmed it if the respondent could describe how to use the method. Despite these differences in measuring knowledge, none of these studies explicitly addressed and modeled the degree of contraceptive knowledge – i.e. the total number of various methods known by men.

## Data

The study is based on a nationally represented data from Bangladesh Demographic and Health Survey (BDHS) 1999-2000 data. The sample covered six administrative divisions, 64 districts and 490 *thanas* (sub-districts). BDHS collected information from 10,544 ever-married women (10-49 years) and 2,556 currently married men (15-59 years). We used the couple dataset that was further generated from the total sample (N=2249). The reason for using couple dataset was to investigate a few additional important variables that were covered in the women (spouse) questionnaire.

## Definition of the degree of knowledge

Knowledge of family planning methods was assessed through a series of questions in the BDHS. Respondents were first asked to mention the way or methods by which a couple could delay or avoid pregnancy. When a respondent could not mention a particular method spontaneously, the interviewer described the method and asked whether the respondent had heard of it (BDHS, 2001). The spontaneous and prompted responses were used to determine the knowledge about a method. The degree of contraceptive knowledge was measured by the number and type of different modern methods that men had ever heard of. The more the number of methods known the higher is the degree of knowledge.

The number of modern methods listed in the BDHS was 9: pill, IUD, injectables, condom, Norplant, menstrual regulation (MR)<sup>1</sup>, foam/diaphragm/jelly, male and female sterilization. The spontaneous reports of top five modern methods known (Table 1) were ranked as; pill (93.9%), condom (79.5%), injectables (45%), female sterilization (44.8%) and male sterilization (27.4%). Roughly 3% provided a spontaneous response of having had heard of Norplant. Norplant was also the least commonly known among all modern methods (24%). The spontaneously reported knowledge of any male modern method was 82.4%. The ranking of reported ever-use, particularly for reversal methods, also followed the same order (BDHS, 2001). None of these responses indicate any functional knowledge of methods since BDHS did not collect such specific information.

--- Table 1 about here ---

#### Method

A descriptive analysis was carried out on the important sample characteristics vis-à-vis spatial, socioeconomic and demographic characteristics of respondents. The variables that were significantly associated with the degree of knowledge examined using bivariate analyses were further explored using multinomial logistic regression techniques. The dependent variable in the regression analysis was the degree of knowledge of modern methods. We selected four categories to represent the degree of knowledge: 1) knowledge

<sup>&</sup>lt;sup>1</sup> Menstrual regulation by vacuum aspiration is a method for establishing non-pregnancy following a missed menstrual period, usually before the pregnancy is clinically confirmed. For this reason, the procedure is not legally defined as abortion. The procedure is allowed up to 10 weeks since the last menstrual period but in practice, it is sometimes provided up to 12 weeks (Akhter, 1988 and BAPSA, 1996). Since 1979, the practice of menstrual regulation has been permitted in Bangladesh and it is considered as a family planning method. Induced abortion is still illegal and is allowed only for health reasons.

of 3 or less number of methods, 2) 4-5 methods (reference category), 3) 6-7 methods and 4) 8-9 methods. The reported top five methods (knowledge and ever-use) include pill condom, female sterilization, injectables and male sterilization. The reference category was chosen according to the ranking of the top five methods – which suggest moderate knowledge of important modern methods. We did not consider the degree of knowledge on a continuous scale for interpretation reasons and also considering the fact that each method varies according to type (reversible/irreversible) and effectiveness. The four categories were chosen based on the ranking of both reported knowledge (spontaneous) and ever-use of different methods. The analysis considered both spontaneous and prompted responses for three reasons. First, we do not know how interviewers handled these questions in the survey, particularly spontaneous responses of contraceptive knowledge. Second, the BDHS considered spontaneous and prompted responses together to measure knowledge. Finally, a few of the modern methods do not have specific local (Bengali) name that people can easily remember (for example Norplant) and therefore prompting is necessary. The reasons behind high spontaneous response rates for pill and condom may be that these two are the most advertised methods of contraception in the local media. Information on other methods is disseminated mostly by the family planning workers with whom men/husbands have usually less access.

# Results

## **Descriptive analysis**

Table 2 presents the degree of reported (spontaneous and prompted) contraceptive knowledge among husbands. About 47 percent of husbands reported of having heard 8-9 modern methods. The mean number of modern methods known among husbands was 6.9. About 19% reported knowledge of 4-5 modern methods. Our data investigations showed that among 19% of those who had heard of 4-5 modern methods, 88% knew at least four of the top five methods. About 99% reported knowledge of at least 3 of the top five methods.

The mean number of modern method known among older husbands (40 and above) was slightly higher when compared with their younger counterparts (Table 3). This clearly indicates that older cohorts of husbands had a high degree of contraceptive knowledge, for example nearly 80% of husbands aged 40 years and above knew 6 or more methods when compared with those aged below 25 years (52%). A graphical representation of the husband's age and the degree of modern contraceptive knowledge is shown in Figure 1. The degree of knowledge also varied considerably by the duration spent in marital union. The longer the time spent in the union the higher is the degree of contraceptive knowledge over the reproductive lifetime through their contraceptive experiences (method switching due to side effects).

--- Tables 2 and 3 and Figure 1 about here ---

## **Regression analyses**

The determinants of the degree of men's contraceptive knowledge were explored using multinomial logistic regression techniques. Three separate models were fitted for multicollinearity reasons. Model 1 controlled for age of the husband, model 2 controlled for marital duration and model 3 added the type of husband's employment. Two specific control (spatial) variables – division and residence - were retained in all these models to capture the effect of over enumeration particularly in two divisions, Barisal and Sylhet. Other important demographic and socioeconomic variables considered were age, marital duration, number of living children, spousal age difference, education, religion and access to mass media (TV/radio/newspaper) and employment. In addition, we examined attitudinal (husband's approval of methods) and behavior (current use of methods) variables. A description of the background variables considered is shown in Table 4 for the readers' reference. It has to be noted that we attempted to include the community level effects associated with the degree of knowledge using a two-level random intercept model. The results from the multilevel analyses showed that the random effects were insignificant – the variations within primary sampling units were almost negligible. Therefore, we relied on fixed effects single-level multinomial regression models.

--- Table 4 about here ---

The results showed that older men aged 40 and above had comparatively high degree of knowledge (8-9 methods) than their counterparts; the results were statistically significant (Table 5). Men from the Chittagong, Dhaka and Rajshahi divisions had lower odds of knowing 3 or less methods when compared with those in Sylhet. Sylhet division, in

general, was found lagging behind in terms of male contraceptive knowledge. Place of residence was not significant in the model. On the other hand, men with high levels of education, those belonging to Islam religion and those who had accessed media (at least once a week) were more likely to have had a high degree of method knowledge. Levels of men's education were particularly significantly and positively associated with degree of contraceptive knowledge. More than 50% had access to television/radio and they were more likely to have had a high degree of method knowledge; the results were statistically significant. In the expected directions, those who had approved and currently using a method seemed relatively more likely than others to have had a high degree of knowledge. The relationship between current use and degree of contraceptive knowledge based on the regression results are graphically illustrated in Figure 2. The results which controlled for demographic and socioeconomic characteristics showed that the likelihood of current modern method use was significantly higher among husbands who knew more number of methods. Those who have had more number of living children were likely to have had heard of more number of methods.

--- Table 5 and Figure 2 about here ---

The model that controlled for marital duration showed identical results (results not shown separately). The analysis showed that husbands who had stayed longer in marital unions were more likely to have had heard of 8-9 methods than other groups (p<0.001). The remaining control variables retained similar effects on the likelihood of degree of contraceptive knowledge. Type of occupation (at survey) was treated in a separate model

since it accounted only 98% of the total sample (Table 4). Model 3 added the type of occupation variable (N=2,204) and the results are reported in Table 6 with a statistical control of other relevant variables considered in Table 5. Men who were employed in the professional sector had had significantly higher degree of contraceptive knowledge than other groups. There was hardly any difference between those who were engaged in skilled manual occupation and those in professional sectors. Unskilled manual, agriculture self employed and agriculture employed respondents had had lower odds of knowing 8-9 methods than 4-5 methods compared with those engaged in professional, technical and managerial jobs. The addition of occupation in the model slightly mediated the effects of current age of respondents. Other variables included in the model showed similar results as that obtained in Table 5 (not shown).

--- Table 6 about here ---

## Discussion

In the Bangladesh context, a high degree of men's knowledge of family planning is a precursor to contraceptive use behavior, particularly male-based methods. Men's ignorance of wide range of contraceptive options may perhaps explain the very low use of condoms and male sterilization in the society. Although reproductive health programs envisaged since the ICPD addressed the issues of informed contraceptive choices and male participation in family planning, our analysis showed that there are still many men/partners who lacked adequate knowledge of the existence of range of method options. Furthermore, the reported levels of knowledge were not at all in par with the ever

or current use of methods, particularly modern methods that require active male participation. The analysis presented in this paper moved beyond the traditional approach of modeling contraceptive knowledge especially those based on DHS data which overtime concluded universal contraceptive knowledge among population in the reproductive ages. In order to gain better insights and forecast men's contraceptive use behavior, it is important to address the degree of their knowledge – that is the extent to which men knew about different options (reversible/irreversible methods). Although we cannot ignore the role of traditional method knowledge/use it is more important to focus on modern methods such as condoms that are able to combat sexually transmitted infections, especially HIV/AIDS. Knowledge could be explained in terms of number of modern method known as suggested in this article. Men who had a low degree of modern contraceptive knowledge seem not properly informed about the wide range of contraceptive options. This analysis pointed out that dissemination of contraceptive knowledge is inappropriate in terms of the informed method choices/options as well as not reaching all men in the society. For example, men in Sylhet division appeared to be far behind in terms of the degree of contraceptive knowledge. Our analyses suggest that mass-media could be utilized for the dissemination of wide range of contraceptive options. Such efforts could focus on exclusive family planning programs targeting both married and unmarried men in Bangladesh. Policies should address and consider the associated factors to uplift males' contraceptive knowledge and hence increase male participation in family planning and reproductive health in Bangladesh. Finally, what is even more important to focus is not only the degree of just contraceptive knowledge but the functional and utility mechanisms associated with each specific method.

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Method	Spontaneous	Prompted	Total
Pill	93.9	5.9	99.8
IUD	20.0	50.1	70.1
Injectable	45.0	46.9	91.9
Condom	79.5	17.9	97.4
Female sterilization	44.8	49.4	94.2
Male sterilization	27.4	59.1	86.5
Norplant	3.4	20.9	24.3
Foam/diaphragm/jelly	20.0	50.1	70.1
Menstrual regulation	4.1	51.0	55.1
Periodic abstinence	12.0	62.3	74.3
Withdrawal	3.4	44.6	48.0
Lactational amenorrhea	0.7	20.7	21.4
Other (folkloric)	6.8	0.0	6.8
Any male method <sup>*</sup>	83.5	15.8	99.3
Any modern male method <sup>*</sup>	82.4	16.5	98.9
Any traditional method	18.8	63.9	82.7
Any method	98.4	1.6	100.0
Any modern method	98.3	1.7	100.0
Number of men respondents	2,249	2,249	2,249

**Table 1** Contraceptive knowledge among husbands aged 15-59 years,Bangladesh, 1999-2000 (%)

\*Any male method includes condom, male sterilization, periodic abstinence and withdrawal, and male modern methods include condoms and male sterilization

	Type of methods			
Number of methods	Modern	All		
≤3	4.7	2.6		
4-5	18.5	11.1		
6-7	29.9	18.5		
8-9	46.9	67.8*		
Mean number of methods known	6.9	8.4		

**Table 2** Percentage of husbands aged 15-59 years by number ofmethods known, Bangladesh, 1999-2000 (N=2,249)

*Note*: there were 9 modern methods and 13 methods of all type. \*include all 13 methods.

-	Number of methods known							
Characteristics	<u>≤</u> 3	4-5	6-7	8-9	Total (N)	Mean		
Age (Years)								
Less than 25	11.9	35.7	25.4	27.0	126	6.0		
25-39	4.5	18.6	32.1	44.8	1120	6.9		
40 and above	4.2	16.3	27.9	51.6	1003	7.1		
Marital Duration (Years)								
Less than 5	7.2	26.1	29.2	37.6	391	6.5		
5-10	5.1	18.4	31.9	44.6	473	6.8		
11 and above	4.0	16.4	29.4	50.3	1385	7.0		

Table 3	Number	of	modern	methods	known	by	husband's	age	and	marital	duration,
Banglade	sh, 1999-2	200	0								

Background Characteristics	0⁄0
Age	
15-19	0.7
20-24	4.9
25-29	13.1
30-34	16.3
35-39	20.4
40-44	16.1
45-49	13.5
50-54	8.7
55-59	6.3
Mean age	38.59
Median age	38.20
SD	9.429
Education	
No education	32.9
Primary	29.6
Secondary	23.5
Higher	14.0
Place of residence	
Urban	30.7
Rural	69.3
Division	
Barisal	8.8
Chittagong	17.3
Dhaka	25.9
Khulna	18.0
Rajshahi	20.5
Sylhet	9.6
Religion	
Islam	85.6
Hinduism	12.9
Buddihsm	1.2
Christianity <sup>*</sup>	0.3
No. of living children	
0	8.9
1	18.5
2	23.3
3	18.2
4	12.9
5	9.0
6+	9.2
	Contd

**Table 4** Background characteristics of husbands (%),Bangladesh, 1999-2000

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Background Characteristics	%
Marital Duration (years)	
0-4	17.4
5-9	17.7
10-14	17.2
15-19	16.1
20-24	10.7
25-29	12.3
30+	8.6
Mean (S.D.=9.79)	14.97
Age Difference Between Spouses (Years)	
Less than 3 <sup>**</sup>	6.4
3-7	32.5
8 and above	61.1
Mean (S.D.=5.07)	9.18
Access to Radio (at least once a week)	
Yes	52.0
No	48.0
Access to TV (at least once a week)	
Yes	55.7
No	44.3
Access to newspaper (at least once a week)	
Yes	29.4
No	70.6
Occupation	
Unemployed	2.0
Professional/Technical/Managerial	30.8
Agriculture self employed	25.8
Agriculture employee	7.1
Skilled manual	12.6
Unskilled manual	20.3
Don't know	0.6
Missing	0.8
-	
Number of men respondents	2,249

**Table 4** Background characteristics of husbands (%), Bangladesh,1999-2000 (contd..)

\*3 missing cases and 1 reporting other religion. \*\* includes a few cases (1.6%) where husbands were younger than their wives by 6 years. Another 2.5% were of equal ages with their wives. SD denotes standard deviation

_	Estimates (degree of modern method knowledge)					
_	≤3		6-7		8-9	
Independent Variables	β	SE	β	SE	β	SE
Age (base: 40 and above)						
Less than 25	.124	.451	903***	.302	-1.294***	.305
25-39	251	.291	.038	.162	270*	.158
<b>Division</b> (base: Sylhet)						
Barisal	589	.473	.529*	.281	.566*	.289
Chittagong	-1.133***	.418	.303	.243	.716***	.247
Dhaka	-1.702***	.438	.442*	.227	.748***	.234
Khulna	.473	.338	.366	.248	.549**	.252
Rajshahi	763*	.415	.931***	.248	1.439***	.254
Place of residence						
(base: Rural)						
Urban	.101	.274	.026	.154	.054	.150
Education (base: Higher)						
No Education	1 204	790	- 649**	316	-2 285***	290
Primary	1.014	791	- 375	316	-1 971***	290
Secondary	.844	.815	320	.330	922***	.297
<b>Religion</b> (base: Others)						
Islam	.341	.346	.326*	.188	.304*	.180
Access to TV (base: No)						
Yes	314	250	316**	144	486***	142
		.200	.510			
Access to Kadio (base: No)	165*	242	022	125	221**	122
i es	403	.242	.052	.155	.321	.133
Respondent approves FP						
(base: No)	205		100	1.60	***	
Yes	395	.265	.183	.168	.477	.175
Currently using method						
(base: No)		- ·-	• • • **		• • • ***	
Yes	.005	.247	.289	.140	.380	.138
Number of living children						
(base: 5 and more)						
	360	471	- 431	290	- 564**	297
1-2	.221	.372	198	.213	.002	.213
3-4	256	.364	133	.196	.346*	.194
Intercept	-1.901**	.880	060	.414	.608	.397

Table 5 Multinomial logistic regression estimates predicting the effect of demographic and socio-economic characteristics on the degree of husbands' modern method knowledge, 1999-2000

*Note:* Level of Significance: \*p<.10, \*\* p<.05, \*\*\* p<.01 Model Chi-square=583.279, D.F.=57 (*p*<0.001). SE denotes Standard Error

	Estimates (degree of modern method knowledge)					
Independent Variables		≤3		6-7		8-9
	β	SE	β	SE	β	SE
Age (base: 40 and above)						
Less than 25	.224	.460	920***	.312	-1.310***	.315
25-39	259	.295	.011	.166	292*	.162
Occupation (base:						
Prof./Tech./Manage.)						
Unskilled manual	558	.358	184	.199	571 <sup>***</sup>	.196
Agriculture Self	031	.331	074	.197	409***	.191
Agriculture employed	743	.455	746***	.256	890***	.260
Skilled manual	.200	.428	.116	.248	.000	.236
Intercept	-1.859**	.890	078	.432	.791*	.412

Table 6 Multinomial logistic regression estimates predicting the effect of husbands' type of occupation on the degree of husbands' modern method knowledge controlling for other characteristics<sup>#</sup>

*Note:* Level of Significance: \*p<.10, \*\* p<.05, \*\*\* p<.01 Model Chi-square=602.007, D.F.=69 (*p*<0.001) \*Other control variables in this model were the same as shown in Table 5



Fig 1. Degree of method knowledge by age of husbands at survey, 1999-2000



Fig 2. Relationship between current use and degree of method knowledge, 1999-2000

Note: Results are based on multinomial logistic regression model that controlled for demographic and socioeconomic characteristics. Knowledge of 4-5 methods was considered as the reference category