Original Article

SOCIO-CULTURAL DETERMINANTS OF CONTRACEPTIVE USE AMONG RURAL WOMEN AGED 15-29 YEARS FROM MARRIAGE TO FIRST LIVE BIRTH

Amir Mohammad Sayem[1] and Housne Ara Begum[2]

[1]Department of Population Sciences, University of Dhaka, Dhaka-1000, Bangladesh
[2]Institute of Health Economics, University of Dhaka, Dhaka-1000, Bangladesh

Abstract

Contraceptive prevalence rate (CPR) is lower while the fertility is higher among rural married women aged 15-29 in Bangladesh. Thus, this comparative study attempted to identify the socio-economic and cultural determinants of contraceptive use in different rural settings. In this primary data based cross sectional study, a semi-structured questionnaire was applied to women aged 15-29 years in two rural areas who had at least one live birth on/before 20 December, 2006. The study areas were identified by multi-stage random sampling technique. Results showed that CPR was slightly higher in Dariadaulat (43.4%) than that of Chardigoldi union (41.6%) while the mean duration of use was slightly higher in Chardigoldi compared to Dariadaulat (5.04 v. 4.59 mo). Regression model for Dariadaulat (38.7% with $P < 0.001$) better explained the use of contraception than that of Chardigoldi (30.0% with $P < 0.001$). Among the determinants in Dariadaulat the most explanatory variable was mass media exposure (15.8%) while it was desired number of children in Chardigoldi (12.6%). Among others, joint decision of using contraception, familiarity with contraceptives before marriage, desired number of children, electricity, family interference and family size were found to have significant impact in Dariadaulat. On the other hand, the other explanatory variables in Chardigoldi were joint decision of using contraception, family interference and familiarity with contraceptives before marriage and age at present. It may be concluded that the CPR is markedly low in rural communities. The lack of accessibility to mass media, lack of joint decision with husband, premarital unawareness regarding contraceptive use, lack of post-marital planning and family interference are major contributory factors for the low CPR in the study population.

Ibrahim Med. Coll. J. 2008; 2(2): 49-54

Key Words: Determinants, contraceptive use, marriage, first live birth, rural women

Introduction

In spite of various socio-economic challenges, Bangladesh National Family Planning Programme has made remarkable strides toward a higher quality of life for its people. One substantial improvement is the increased contraceptive prevalence rate (CPR) from 7.7 percent in 1975 to 55.8 percent in 2007.[1] During the same period, the total fertility rate (TFR) has declined from 6.3 to 2.7 births per woman. Different studies have shown that higher contraceptive use is associated with decreasing fertility.[2-5]

CPR in rural areas is about 8% less than that of urban areas. Moreover, the use of contraception is lower among women aged 15-29 years compared to women aged 30-39 years. On the otherhand, the TFR is 2.4 for urban area while it is 2.8 for rural area. Age specific fertility for urban women aged 15-19, 20-24 and 25-29 years are 92, 159 and 124 respectively per 1000 live births compared to 138, 177 and 127 of rural women. The unmet need for family planning services, especially contraceptives, is also higher among women aged

Address for Correspondence:

Dr. Housne Ara Begum, Assistant Professor, Institute of Health Economics, University of Dhaka, Dhaka 1000, Bangladesh, e-mail: drhousne@gmail.com

15-29 years. About 19, 12 and 6 percent of women aged 15-19, 20-24 and 25-29 years respectively have unmet need for family planning.[1] Thus, to reach the Government's goal of achieving replacement fertility, a further increase in the CPR among the stated group of women will be necessary. However, newly married couples usually are less likely to use contraceptives mainly due to the traditional societal set-ups in rural areas which desire at least one child and/or pressurize the women to have child immediately after marriage for earlier establishment of a family. In this regard, it should be mentionable that studies on newly married women are almost absent. Therefore, this study has attempted to identify the socio-economic factors affecting the use of contraception since marriage to first live birth among rural women aged 15-29 in Bangladesh.

Materials and Methods

The primary data for this study was collected from women in two rural areas of Bangladesh. Study areas were identified through multi-stage random sampling technique. Two districts such as Brammanbaria and Narshingdi were selected from respectively Chittagong and Dhaka division and then two thanas namely Bancharampur and Narshingdi were chosen. At the final stage, one union from each thana was selected as study area (Dariadaulat from Bancharampur and Chordigoldi from Narshingdi). The subjects of this cross sectional survey were women within 15-29 years of age who had at least one live birth before December 20, 2006. From each union 250 eligible women were successfully interviewed with a structured questionnaire.

The study utilized use of contraceptive as dependent variable which was measured in months of use since marriage to first live birth. Some socio-economic, demographic and cultural factors were used as independent variables. Composite index was developed for two independent variables such as mass media exposure which included hours of listening to radio, watching television and reading newspaper per week, and knowledge on contraceptive which included four questions regarding contraception. At the data preparing stage, the responses against each of the index question were later scaled into grand score by arithmetic transformation. In order to identify the determinants of use of contraceptive, two separate multiple regression models were used for each area so that a comparative picture of determinants can be presented. In doing so, the following simple linear regression equation was used:

$$Y = a + b_1 * X_1 \ldots\ldots\ldots\ldots\ldots + b_k * X_k + e$$

Where,

Y	=	dependent variable
a	=	constant
b	=	the regression coefficient
X	=	independent variables of the model
K	=	end number of the series
e	=	error term

Results

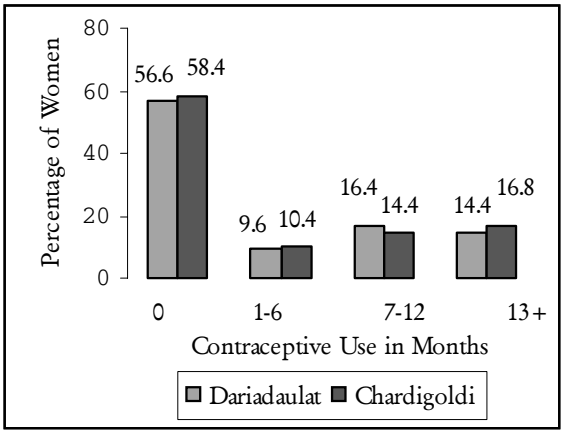
Use of Contraceptives

The CPR was 43.4% and 41.6% respectively in Dariadaulat and Chardigoldi union (figure 1). Among women who used contraception since marriage to first live birth, the highest percentage was recorded 18.4% for 7-12 months in Dariadaulat while 16.8% for 13+ months in Chardigoldi. Women in Dariadaulat and Chardigoldi respectively using contraceptive for 1-6 months were 9.6% and 10.4%. With regard to mean months of contraceptive use, women from Chardigoldi (5.04 months) were slightly higher than that of Dariadaulat (4.59 months).

Correlates of Months of Contraceptive Use

Table 1 presents the results of bi-variate analysis of months of contraceptive use among women in two areas

Fig-1. *Percentage distribution of contraceptive use in months among women aged 15-29 in Dariadaulat and Chardigoldi union.*



Mean Months (Bancharampur) =4.59
Mean Months (Narshingdi) =5.04

by different socio-economic, demographic and cultural factors. Duration of schooling was found to be positively associated with longer duration of use. The women aged 19 years or greater were found to use contraceptives for a longer period in both areas. The women with the facility of electricity, mass media exposure and smaller family size used contraceptives for a longer period in Dariadaulat than that observed in Chardigoldi (P < .01).

The longer duration of use was also observed among those who jointly decided about family planning, familiar with contraception before marriage and had higher level of knowledge on contraceptives in both the areas. The women who had family interference used contraceptives for a shorter period in both the areas. In either area, those who were willing to have many children had a propensity to use contraceptive for a shorter period (P < .01).

Determinants of Contraceptive Use

In order to identify the socio-economic, demographic and cultural determinants of months of contraceptive use, simple linear regression technique was used. Two separate models were analyzed for two regions.

Table-1: *Mean comparison of contraceptive use in months among rural women aged 15-29 in Dariadaulat and Chardigoldi union.*

Variables	Categories	Dariadaulat Union			Chardigoldi Union		
		Mean	Number	Pearson r	Mean	Number	Pearson r
Respondents' Schooling	No Schooling	3.52	79	.098	3.57	67	.186**
	1-4 Years	3.43	28		5.02	44	
	5	5.74	105		3.67	48	
	6-8	4.53	30		5.65	65	
	9+	4.38	8		9.88	26	
Age at Present	15-19	2.86	78	.184**	2.13	68	.217**
	20-24	4.21	76		5.46	83	
	25-29	6.30	96		6.69	99	
Electricity	No	2.67	136	.324**	4.84	195	.052
	Yes	6.89	114		5.76	55	
Mass Media Exposure	No	2.99	163	.398**	5.05	154	.030
	Low	3.84	31		4.79	34	
	Medium	9.83	36		4.07	44	
	High	9.40	20		7.78	18	
Desired Number of Children	<=2	8.78	95	-.381**	9.25	85	-.355**
	>2	2.03	155		2.87	165	
Family interference	No	7.18	85	-.286**	6.88	146	-.294**
	Yes	3.26	165		2.45	104	
Joint Decision	No	2.36	135	.372**	2.94	131	.297**
	Yes	7.21	115		7.35	119	
Knowledge on Contraceptives	No	4.06	34	.269**	2.68	22	.199**
	Low	3.06	31		4.07	68	
	Medium	4.24	157		5.27	131	
	High	8.93	28		8.07	29	
Familiarity with Contraception	No	2.23	120	.350**	2.71	114	.287**
	Yes	6.78	130		6.99	136	
Family Size	<=4	3.42	59	.194**	4.02	44	.024
	5-6	4.07	57		5.38	65	
	7-8	4.07	82		5.46	76	
	8+	7.31	51		4.89	65	

*** P< 0.01 (2-tailed), * P< 0.05 (2-tailed)*

Variables significant at bi-variate analysis were included into the regression model. Between the models, model for Dariadaulat (38.7%) explained higher variation than that of Chardigoldi (30.0%).

Table 2 presents the results of multivariate analysis for Dariadaulat union. Among the independent variables, mass media exposure was found to be the most significant variable which explained 15.8% of variance in months of contraceptive use implying that women with higher mass media exposure are more likely to use contraceptive for longer time. Joint decision of family planning was found to be the second most important variable in this area explaining 8.2% variance. Women who jointly decided were likely to use contraceptive longer than those who did not decide.

Women with familiarity with contraception before marriage, electricity and larger family size were found to use contraceptive for longer time and respectively explained 6.1%, 2.2% and 1.6% variation. As expected, women's desired number of children and family interference were found to have negative impact. Women with family interference and larger number of desired children were less likely to use contraceptive.

Table-2: *Simple Linear Regression of factors affecting contraceptive use among rural women aged 15-29 in Dariadaulat union.*

Variables	B	Std. Error	Beta	T Values	R Square Changed
(Constant)	3.186	1.541		2.068*	
Mass Media Exposure	.169	.048	.195	3.535***	.158
Joint Decision of Using Contraception	2.589	.703	.199	3.682***	.082
Familiarity with Contraception before Marriage	2.016	.718	.155	2.808**	.061
Desired Number of Children	-.989	.317	-.174	-3.122**	.030
Electricity	2.025	.701	.155	2.887**	.022
Family Pressure	-1.884	.723	-.138	-2.607**	.016
Family Size	.252	.100	.129	2.511*	.016
Multiple R = .622 R Square = .387 F-Values = 21.813*** df = 7 & 242					

*** P< 0.001, ** P< 0.01, * P< 0.05

Table-3: *Simple Linear Regression of factors affecting contraceptive use among rural women aged 15-29 in Chardigoldi union.*

Variables	B	Std. Error	Beta	T Values	R Square Changed
(Constant)	6.258	3.029		2.066*	
Desired Number of Children	-2.677	.454	-.318	-5.901***	.126
Joint Decision of Using Contraception	2.746	.830	.185	3.308***	.076
Family Pressure	-2.770	.856	-.184	-3.237***	.051
Familiarity with Contraception before Marriage	2.809	.823	.189	3.411***	.037
Present Age	.225	.114	.111	1.973*	.011
Multiple R = .548 R Square = .300 F-Values = 20.937 *** df = 5 & 244					

*** P< 0.001, * P< 0.05

Table 3 displays the results of multivariate analysis for Chardigoldi union. The most explanatory variable was desired number of children of women which explained 12.6% variation (P<0.001). Similar to the model for Dariadaulat, this model found that women with larger number of desired children were less likely to use contraceptive. Like Dariadaulat the second most significant variable was joint decision about family planning; however, explanatory power was to some extent less than that of Dariadaulat.

Women with familiarity with contraception before marriage and age at present were, similar to the model for Dariadaulat, found to have positively significant impact on months of contraceptive use. Family interference explained 5.1% of variation in month of contraceptive use. Similar to Dariadaulat, family interference in this model also indicates that women with such pressure were less likely to use contraceptive.

Discussion

The findings showed that less than half of married women from each area aged 15-29 years used contraceptives since marriage to first live birth. Relatively, the percentage of women in Dariadaulat union who used contraceptives during that time was slightly higher compared to that of Chardigoldi union. However, the CPR found in the study population was notably lower than that of national level in 2007.[1]

It was found that promotion of family planning through radio or television can be an important means of raising awareness, improving knowledge and stimulating the use of modern contraceptive methods.[6-8] However, mass media exposure had no universal impact on use of contraception in this study. But in Dariadaulat union, the impact of mass media showed significant explanatory power in determining the use of contraception since marriage to first live birth.

Surprisingly, knowledge on contraceptives had no significant impact on use of contraception in this study. However, women with familiarity with contraception prior to marriage are more likely to be influenced and to exercise it when married. In this study, such familiarity had significant impact on the use of contraception in both the study areas. However, it is inconsistent with another study.[9]

Electricity provides the ground to utilize the mass media which is the access of rural people to the outer world. The electricity in this study was found to have significant positive impact on months of use of contraception only in Dariadaulat. This may be due to that in Dariadaulat union the household electricity was more prevalent than that of Chardigoldi union.

The strong desire for at least some children and/or substantial social pressure to bear children immediately after marriage are existing norms that favor the early establishment of a family in Bangladesh. Both desired number of children and family interference were found to have significant negative impact on the use of contraception in both areas. This suggests that women with higher desired number of children and with family interference to have child immediately after marriage were less likely to use contraceptives.

Bangladesh is a traditional patriarchal society where women are expected to be guided by their husband's decision in every sphere of life. Therefore, it is expected that husband's approval or disapproval determines the use of contraception by women in Bangladesh. However, in this study joint decision by husband and wife for using contraception was found to have significant positive impact on use of contraception in both areas which is similar to a study in Nepal.[10]

Family size had significant positive effect on use of contraception only in Dariadaulat union. It is probable that people are realizing negative economic and health consequences of larger families due to rural electrification and the wide use of mass media in Dariadaulat union. Age is also found to have a significant positive impact on the use of contraception suggesting that women with higher age are likely to use contraceptives for a longer duration since their marriage than women with lower age. However, it was significant only in Chardigoldi union.

It is evident from the study that women aged 15-29 yrs were less likely to use contraceptives since marriage to first live birth in the study population. Moreover, mean months of use was also very low. However, an increase of CPR may be possible to a significant level if different socio-economic and cultural determinants are considered within the planned program.

This study revealed that the CPR is unusually low in rural communities. The study population had least accessibility to mass media. The study observed that lack of joint decision with husband, premarital unawareness regarding contraceptive use and post-marital planning were the major contributory factors for the low CPR in the study population. Family interference was also found to be a major hindrance. Further studies may be undertaken to confirm these findings. Remedial measures may be taken to address these risk factors for low CPR to reduce TFR in the rural communities.

References

1. National Institute of Population Research and Training (NIPORT), Mitra Associates Measures DHS, 2007. Ministry of Health and Family Welfare, Macro International, Calverton, Maryland, USA (2007). Bangladesh Demographic and Health Survey, Preliminary Report 2007.
2. Nortman D. Measuring the unmet need for contraception to space and limit births. *Int Fam Plann Perspect* 1982; **8**(4): 125-134.
3. Mauldin W Segal. Prevalence of contraceptive use in developing countries: A Chart Book. Rockefeller Foundation: New York, United Nations, 1986.

4. United Nations. Levels and trends of contraceptive use as assessed in 1988. New York, United Nations, 1989.
5. Frank O, Bongaarts J. Behavioural and biological determinants of fertility transition in Sub-Saharan Africa. *Stat Med* 1991; **10**(2): 161-75.
6. Feyisetan BJ, Ainsworth M. The impact of the availability of price, and quality services on the demand for contraception in Nigeria. Washington DC, Policy Research Department: The World Bank, 1984.
7. Olaleye DO, Bankole A. The Impact of mass media family planning promotion on contraceptive behaviour of women in Ghana. *Pop Res Pol Rev* 1994; **13**: 161-177.
8. Parr N. Family planning promotion, contraceptive use and fertility decline in Ghana. *Afr Pop Stud* 2002; **17**(1): 83-101.
9. Islam M, Kane TT, Khuda B, Reza MM, Hossain MB. Determinants of contraceptive use among married teenage women and newlywed couples. ICDDR,B, 1998 (Work. Pap. no. 117).
10. Shrestha DP. Determinants of current contraceptive use among Nepalese women: an analysis of NFH survey 1991. *Nep Pop Dev J* 2000; July: 1-9.