UNINTENDED PREGNANCY AMONG RURAL WOMEN IN BANGLADESH

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ABSTRACT

Unintended pregnancies are associated with unsafe abortion and greater risk of maternal morbidity and deaths. Considering the magnitude of the situation and its consequences, this paper explores factors associated with the prevalence of unintended pregnancies in rural Bangladesh with implications for policy intervention. A total of 3300 women were interviewed to collect information on related issues. Findings reveal that about 29 percent of the pregnancies were unintended and the frequency was higher among the older, less educated, higher parity and poor women. Findings also suggest that unintended pregnancy rate was higher (33 percent) among women who used contraceptive before their last pregnancy than women (23 percent) who did not use any contraceptive. The rate of unintended pregnancy also varied, by the types of contraceptive methods used. The findings underscore the importance of measuring contraceptive discontinuation rates in addition to prevalence of all modern methods.

INTRODUCTION

Each year about 184 million pregnancies occur in the developing world, and 40 percent of these are unintended [1]. It is estimated that about half of the unintended pregnancies ended in abortion, which is responsible for at least one in seven maternal deaths worldwide [2]. More than 95 percent of these deaths occur in developing countries [3]. In addition, unintended pregnancy leads to increase risk of maternal depression and has negative effect on antenatal care, breastfeeding and infant mortality [4].

According to 2007 Bangladesh Demographic and Health Survey (BDHS), in Bangladesh, 29 percent of pregnancies were unintended with 15 percent mistimed and 14 percent unwanted. The total intended fertility rate is 1.9 which is quite lower than the total fertility rate (TFR) 2.7 [5]. This means that if all unintended pregnancy could be eliminated, the TFR would drop below the replacement level of fertility immediately.

Unintended pregnancy is typically exposed to the risk of abortion. In Bangladesh, menstrual regulation (MR) is legal but the abortion service is not legally permitted. But a study revealed that, about 45 percent of unintended pregnancies undergoes as MR and abortion [6]. On the other hand, the quality of MR/abortion services in Bangladesh is reportedly poor and abortion-related complications contribute to about one-fourth of all maternal deaths in Bangladesh [7]. Maternal mortality in Bangladesh declined by 40 percent from 322 deaths per 100,000 live births in 2001 to 194 deaths in 2010 [8], which may be attributable to remarkable progress in fertility decline, from a high level of 6.3 births per woman in the mid-1970s to 2.7 births per woman in 2007 [9]. Despite these recent developments in the health sector, unintended pregnancy remained same for last few decades.

In Bangladesh most of the reproductive health programs are directed towards improving maternal health and family planning while unintended pregnancies remain unaddressed. The recent shift program development from supply side driven to demand side initiatives has failed to address unintended pregnancy too. Recently, the Government of Bangladesh has initiated an innovative demand-side financing (DSF) scheme for poor pregnant women to receive maternal health care services. The selected poor women under DSF scheme receive a package of essential maternal health care services, as well as treatment of pregnancy and delivery related complications. But family planning services are not covered under the purview of DSF program. This program also provides supply side financing to the service providers [10]. The DSF scheme started in 2006 with 21 sub-districts (upazilas) and expanded to 33 upazilas in 2007. In the third phase, this program has been expanded to another 11 upazilas. Population Council with funding from the Bill and Melinda Gates Foundation (BMGF) has been evaluating the impact of voucher programs in five countries including Bangladesh [11]. This paper is an outcome of a multi-country evaluation of subsidized reproductive health program, as a part of evaluation activities, a baseline survey in new DSF and non DSF (control) areas was conducted. This article used information collected during the baseline survey to explore prevalence and factors associated with unintended pregnancy in rural Bangladesh.

METHODOLOGY

The baseline study was a cross-sectional survey of women 18-49 years of age who had delivered in the year preceding the survey. The information was collected from 22 upazilas where 11 upazilas were selected for DSF program and 11 upazilas were selected as control areas. Baseline survey was conducted during May-July 2010 to collect information on respondents' socio-economic and demographic characteristics as well as service use and perception. A total of 3,300 women were interviewed using a structured questionnaire.

Analysis Methods

Both bi-variate and multivariate analysis were used to identify factors associated with unintended pregnancy. For bi-variate analysis, chi-square test of association was performed to examine relationship between the dependent and each of the independent variables. In the multivariate technique, binary logistic regression was used to examine strength of the relationship between

the dependent and independent variables in order to identify those variables that have a significant relationship with the dependent variable. As a part of analysis, multi-co-linearity among independent variables was examined.

Dependent Variable

Unintended pregnancy is considered as the dependent variable. It was measured by asking the respondents to recall their intention of the last pregnancy. The data were collected by asking: - 'when you became pregnant last time, did you want to become pregnant at that time, wanted to wait or did not want to become pregnant or child at all?' The responses were categorized into three groups: wanted, wanted to wait (mistimed) and did not want at all. From these responses, those who said 'mistimed' and 'did not want child at all' were combined as "unintended pregnancy".

Independent Variables

Age of respondents, number of living children, education, wealth index, exposure to mass media and use of family planning method before their last pregnancy were considered as independent variables.

Limitations

The information was collected from the cross-sectional baseline survey of DSF evaluation activities which limits to draw causal inferences of unintended pregnancy. On the other hand, since it is a cross sectional retrospective measures of women's pregnancy intention; the probability of recall bias and miss reporting may lead to under estimates of unintended pregnancy.

FINDINGS

Background Characteristics

Table 1 shows the background characteristics of the respondents. More than 80 percent of women were aged below 30 years and 87 percent of them were Muslim. Nearly all women were currently married and reported their occupation as housewife. The most common occupations of their husbands were agriculture, business, and day labor (not shown in the table). The educational status of women reflected that about one-fourth of the women never attended school and 14 percent of women completed primary education. About four out of ten respondents' educational status was below secondary and only seven percent respondents completed secondary or higher than secondary education. Regarding exposure to mass media, four out of ten respondents watch television and only two percent read newspaper at least once a week. The average number of family members was about six. The average number of living children was slightly higher than two and about 49 percent were male children.

Table 1. Background Characteristics of Respondents

Characteristics	Percent
Age	
19 years or below	15.4
20-24 years	41.4
25-29 years	25.0
30-34 years	12.4
35 years or above	5.8
Religion	
Islam	87.1
Hinduism	12.8
Christianity	0.1
Education	
Never attended school	23.9
Incomplete primary	17.8
Completed primary	13.9
Below secondary	37.0
Completed secondary	4.5
Higher than secondary	2.9
Media habit (at least once a week)	
Read newspaper or magazine	2.0
Listen to a radio	14.8
Watch television	40.9
Number of living children	
One or no* child	37.8
Two	29.9
Three	17.5
Four or more	14.8
Sex of living children**	
Male	48.8
Female	51.2
N	3300

* 34 women reported still births/neonatal deaths during survey
** N=7,299

Last Pregnancy Intention

Findings suggest that 71 percent women wanted to become pregnant last time, 16 percent women wanted to wait or mistimed and another 13 percent didn't want children any more. In other-words, about 29 percent of the pregnancies were unintended.

Table 2. Proportion of Respondents by Types of Their Pregnancy Intention

Type of Pregnancy	Percent
Intended	71.1
Wanted to wait	16.3
Didn't want	12.6
Total	100.0
N	3300

Use of Family Planning Method

Findings suggest that about six out of ten respondents were using a contraceptive method before their last pregnancy. More than half (55 percent) used a modern contraceptive method and four percent used a traditional method. Oral pill was by far the most widely used method (46 percent) followed by injectables (6 percent) and condom (3 percent). Use of long term method was very low.

Table 3. Use of Contraceptives Methods Before Last Pregnancy

Type of contraceptive methods	Percent
Did not use any method	41.2
Used any methods	58.8
Any Modern methods	54.9
Oral pill	45.7
Condom	2.5
Injectables	6.2
IUD	0.2
Norplant	0.3
Any Traditional method	3.9
Safe period	3.3
Withdrawal	0.6
N	3300

Interestingly, a large number of women (59 percent) reported use of any contraceptive before their last pregnancy, but many of them (33 percent) experienced unintended pregnancy. On the other hand, non-users of contraceptive methods reported relatively lower proportion of unintended pregnancy (23 percent). The proportion of unintended pregnancy was comparatively higher among injectables users (47 percent) and withdrawal users (55 percent) as compared to other method users (Table 4).

Table 4. Percentage of Pregnancy Intention by Use of Contraceptive Methods Before Last Pregnancy

Use of contraceptive methods	Intended	Unintended	N
Did not use any method	77.3	22.7	1361
Used any methods	67.3	32.7	1939
Any modern method	67.9	32.1	1809
Oral pill	69.7	30.3	1508
Condom	70.7	29.3	82
Injectables	53.4	46.6	204
IUD	71.4	28.6	7
Norplant	75.0	25.0	8
Any traditional method	57.7	42.3	130
Safe period	60.0	40.0	110
Withdrawal	45.0	55.0	20

Bi-variate Results

Findings presented in Table 5 suggest that age, education, number of living children, wealth index, exposure to mass media and use of contraceptive methods before last pregnancy were strongly associated with pregnancy intention. It is observed that the proportion of unintended pregnancy was higher among the older women. Similarly, the proportion of unintended pregnancy was higher among the women having higher number of children. The rate of unintended pregnancy was found six times higher among women who had four or more living children as compared to women who had one or no living child. Similar to other studies, current analysis also found a strong association between unintended pregnancy and socio-economic status of the respondents. The likelihood of unintended pregnancy was two times higher among women of lowest quintile than highest quintile. On the other hand, the unintended pregnancy rate was quite high among women who never attended school as compared to the women with higher education (42 percent vs. 13 percent). Similarly, unintended pregnancy rate was found higher among women who were not exposed to mass media (34 percent) than who were exposed to mass media (24 percent). The rate of unintended pregnancy also varied according to the use of contraceptive methods. For example, women who were using traditional method before their last pregnancy among them 42 percent experienced unintended pregnancy where this proportion was 32 among the modern contraceptive users.

Table 5. Results of Bi-variate Analysis for Associations Between Pregnancy Intention and Selected Socio-demographic Variables (in percent)

Variables	Intended	Unintended	N	χ^2
Age				
19 years or below	80.7	19.3	508	
20-24 years	78.9	21.1	1367	
25-29 years	69.3	30.7	824	224.15***
30-34 years	55.3	44.7	409	
35 years or above	37.0	63.0	192	
Number of living children				
One or no child	88.7	11.3	1247	
Two	75.3	24.7	988	566.73***
Three	58.8	41.2	578	
Four or more	34.1	65.9	487	
Wealth index quintile				
Lowest	63.3	36.7	660	
Second	66.1	33.9	660	
Middle	70.9	29.1	660	72.67***
Fourth	74.2	25.8	662	
Highest	82.5	17.5	658	
Education				
Never attended school	58.2	41.8	790	
Incomplete primary	67.7	32.3	586	125.68***
Completed primary	71.4	28.6	458	
Below secondary	79.7	20.3	1220	
Completed secondary	78.0	22.0	150	
Higher than secondary	87.0	13.0	96	
Exposure to mass media				

Exposed	76.2	23.8	1793	45.17***
Not exposed	65.6	34.4	1507	
Use of FPM before last pregnancy				
Not used	77.3	22.7	1361	
Traditional	57.7	42.3	130	45.96***
Modern	67.9	32.1	1809	

NB: *=p<0.05, **=p<0.01, ***=p<0.001

Multivariate Results

Logistic regression analysis was used to examine the odds of unintended pregnancy for each of the risk factors controlling for the others. In the logistic regression model, six independent variables were identified as factors potentially associated with unintended pregnancies. Due to collinearity between age and number of living children, age was not included in the analysis. Findings show that women with two living children had a more than double odds of experiencing unintended pregnancy compared to women with one or no living child. Similarly with three living children it had five times greater odds of experiencing unintended pregnancy. The odds of unintended pregnancy were 1.6 times higher among the women in lowest wealth quintile as compared to the women in highest wealth quintile. Somewhat surprisingly, education did not show any significant impact on the probability of reporting unintended pregnancy in the multivariate analysis. But the impact of education remained significant in the bi-variate analysis. The likelihood of unintended pregnancy was 1.13 times higher among women who were not exposed to mass media than women who were exposed to mass media. It was found that those who did not use contraceptive methods before their last pregnancy had a reduced odds (OR=0.22) of experiencing unintended pregnancy compared to those who used modern contraceptive methods. Among contraceptive users, the likelihood of reporting unintended pregnancy was 1.5 times higher among the women who used traditional method as compared to modern contraceptive method users.

Table 6. Results of Odds Ratios of Pregnancy Intention and Selected Socio-demographic Variables

Variables	B	S.E.	p-value	Odds Ratio
Number of living children				
One or no child (RC)	-	-	-	1.00
Two	0.847	0.120	0.000	2.33***
Three	1.587	0.131	0.000	4.89***
Four or more	2.572	0.144	0.000	13.10***
Wealth index quintile				
Lowest	0.484	0.164	0.003	1.62**
Second	0.506	0.159	0.001	1.66**
Middle	0.388	0.155	0.012	1.47*
Fourth	0.312	0.151	0.039	1.37*
Highest (RC)	-	-	-	1.00
Education				
Never attended school	0.149	0.339	0.659	1.16
Incomplete primary	0.162	0.339	0.633	1.18
Completed primary	0.258	0.340	0.447	1.29
Below secondary	0.146	0.325	0.654	1.16

Completed secondary	0.476	0.375	0.203	1.61
Higher than secondary (RC)	-	-	-	1.00
Exposure to mass media				
Exposed (RC)	-	-	-	1.00
Not exposed	0.127	0.094	0.175	1.14
Use FPM before last pregnancy				
Not used	-0.247	0.093	0.008	0.78[**]
Traditional	0.410	0.207	0.047	1.51[*]
Modern (RC)	-	-	-	1.00

RC means Reference categories, R Squared= 0.236, Number of cases=3300, ***=p<0.001, **=p<0.01, *=p<0.05

DISCUSSION AND CONCLUSION

Unintended pregnancy rate has remained almost at the same level for several years in Bangladesh (33 percent in 1993 and 29 percent in 2007) which needs special attention by the policymakers [5]. Analysis showed that the unintended pregnancy rate was relatively higher among the older women than the younger and the finding is consistent with other studies conducted in different developing countries [12-15]. Also like these studies [14-17], this article confirmed that the likelihood of unintended pregnancy was higher among women who had higher number of living children. Geda and Lako (2011) reported that the likelihood of experiencing unintended pregnancy among older women is higher due to majority of them already attained their desired number of children. Analysis showed the unintended pregnancy rate gradually decreases with the increase of educational attainment which coincides with other studies [15, 17-19]. Similarly, women exposed to mass media had reduced odds of unintended pregnancy. Mass media can play an important role in reducing unintended pregnancy [17, 20]. Several authors reported that the socio-economic status of respondents is associated with unintended pregnancy [13-15, 17] and the current analysis also found that women in lowest wealth quintile experienced unintended pregnancy 1.6 times more than women in highest wealth quintile. Therefore, special attention should be given to older women, less educated and poor women to reduce unintended pregnancy.

It was observed that unintended pregnancy rate was higher among the contraceptive users before their last pregnancy than non users [12-14, 16-17, 19, 21]. The rate also varied by the type of contraceptive methods used. Again, the rate was higher among traditional and temporary modern method users as compared to longer acting modern method users. It suggests a possibility of problems with contraceptive use effectiveness, including contraceptive discontinuation or failure [14, 16, 19]. Beside this, users of a contraceptive method might have higher expectations about limiting or spacing their pregnancies, and thus be more likely to view a pregnancy as unintended [21]. The incidence of unwanted pregnancy might decline more slowly than expected, and might even rise for a while, as countries move through the fertility transition. This increase can occur even as contraceptive use expands, if the trend toward a desire for small families and more precisely timed births outpaces increases in contraceptive use [22].
In Bangladesh, the majority of women use temporary methods like oral contraceptive pills and injectables. Contraceptive discontinuation or failure is a significant problem and varies by method. About 57 percent of contraceptive users (67 percent of withdrawal users, 51 percent of

safe period users, 76 percent of condom users, 54 percent of pill users, 53 percent of injectibles users, and 33 percent of IUD users) discontinue their method within 12 months of starting [5]. Mostly, women discontinue their methods due to side-effects [23]. Therefore, emphasis should be given for a rational use of modern contraceptives by the women through their reproductive life cycle with proper method screening. In the DSF voucher program, a greater effort is needed to improve the quality of postnatal counseling and uptake of appropriate methods. In addition, extensive counseling sessions on possible side-effects is also essential to reduce the rate of method discontinuation. Besides, Bangladesh has a long tradition of early marriage and has one of the lowest mean ages at first marriage for females around the world. This early initiation of sexual intercourse which increases the risk of unintended pregnancies [14-15, 20]. Proper implementation of minimum age of marriage law is crucial as well as increasing the legal age of marriage may be another intervention to reduce the rate of unintended pregnancy.

It can be assumed that the improvement of quality of family planning services is likely to decrease the level of unintended pregnancies in the future. Special attention need to be given on several issues like; strengthening awareness for using contraceptive methods, proper screening, effective counseling to address side effects and discontinuation of methods. In addition, regular supply of contraception commodities, including emergency contraceptive pills, is also essential to reduce the rate of unintended pregnancy. For the DSF program, maternal health voucher is restricted up to second birth and the user for second birth is required to use FP method. It is observed that women with 3+ births have very high percentage of unintended pregnancies. DSF needs to put a greater emphasis on the postpartum visit regardless of parity. Also advocacy is needed to promote longer acting and permanent methods among the eligible couples to avoid unintended pregnancy.

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