Some Demographic Factors and their Association with Teenage Pregnancy in Rajshahi, Bangladesh

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Abstract

Teenage pregnancy is commonly used to describe the pregnant state of girls among 19 years age or younger i.e. the pregnancy occurred the transition stage between childhood and adulthood. In this study, the cross-sectional sample design is used to collect primary data from 500 ever-married women of 15-49 years selected through simple random sampling from Rajshahi City in Bangladesh. The present study examines the factors affecting teenage pregnancy of Rajshahi. In this study, bivariate and multivariate analyses have been employed. The bivariate analysis provides that women's education, husband's education, father's education, type of marriage, dowry, physical violence, contraceptive use, first birth interval, and religion are significant association with teenage pregnancy of women. The logistic regression analysis depicts that a statistically significant association between teenage childbearing with education. The result indicates that teenage mothers have 1.24 times higher odds of being early pregnancy in presence of physical violence than couple who don't have physical violence. Non-muslim women are 67 percent lower chances to become pregnant at early ages than their Muslim counterparts. It also exhibits that dowry has an impact on early pregnancy in Rajshahi. It should focus to take appropriate reproductive health program regarding neglected teenage women and highlighted the priority of teenage women in Rajshahi.

Keywords: Teenage fertility, logistic regression, Rajshahi, Bangladesh.

Introduction

Teenage is the age when the transition stages of age between childhood and adulthood[1,2]. This is a combination of both the terms "teenage years" and "puberty". Puberty refers to the hormonal changes that occur in early youth and the teenage is the period of adolescence. The onset puberty which has might be seen as a clear line of demarcation between childhood and adolescence. Puberty occurs at significantly different points for girls, the median age of girl's first period is 12 years and they can experience the menarche at teenage. There are key progress is seen that nearly all teenagers experience during their transition from childhood to adulthood. The events that occur in the teenage of a woman are same experience of adolescent age. Teenage is the important period of women because it is widely acknowledged that each individual experiences this period differently depending on her or his physical, emotional and cognitive maturation as well as other contingencies[2].

Teenage marriage in particular is associated with high levels of violence, social marginalization, adverse birth outcomes and exclusion from protection services and education[3]. In most of the developing countries and communities, child marriage especially in teenagers (defined by UNICEF as marriage or union before age 18), teenage motherhood, violence, abuse and exploitation can in effect deprive girls (UNICEF). The timing of

teenage is significant in the life of anybody because many important events and health-related issues start during this period[4,5]. Attaining motherhood is a crucial moment of psychological and biological change in a mother's life. Teenage fertility results in long-term demographic effects as larger reproductive span because the timing of a first birth is usually an indicator of future fertility patterns[6]. It is worthwhile to mention that unintended and mistimed pregnancies are higher among the teenage mothers who included a significant proportion for increased level of fertility[7].

Teenage motherhood is an issue of public health problem or a ''social epidemic''. It is well documented that teenage pregnancy is associated with higher risk of poor health outcomes for mother as well as newborn baby[8]. In developing countries teenage motherhood is causally related with increased adverse reproductive problems such as antenatal care services utilization and delivery related issues including higher levels of blood pressure, toxemia, anemia, excessive bleeding, prolonged labour and premature delivery, higher incidence of low birth weight, stillbirth and perinatal mortality[9]. Moreover, teenage motherhood has negative socio-economic and health consequences for mothers and their children[10]. There is scarcity of organized documentation of unfavorable socio-economic and obstetric outcomes among the teenage mothers in developing countries. In spite of rapid fertility transition in Bangladesh,

fertility in teenagers is not changed at the same pace and magnitude, however, the age-specific fertility rate decreases consistently during 1993–1994 to 2011, but the contribution to the country's level of TFR by teenage has remained still high[11].

The progress in reproductive behaviour of Bangladeshi women has been viewed as a success as a challenging environment[12]. However, these pictures conceal the broad variations in reproductive behaviour that are prevailing across regions and sub-groups of Bangladeshi women by socio-economic strata. One such behavior is teenage pregnancy and teenage pregnancy, their sexual and reproductive health has been neglected. In fact, in the patriarchal Bangladeshi culture, early age at marriage and childbearing are like a traditions. Apart from studies on fertility and contraceptive behaviour are in huge number in Bangladesh, but still, teenage pregnancy in various setting of socio-economic factors has received very little attention yet among researchers and policy makers to understand teenage and adolescent childbearing. Rajshahi division is demographically neglected in Bangladesh. The low mean age at marriage and teenage pregnancy is available in Rajshahi[13]. In this context, this study aims to identify the factors affecting teenage pregnancy in Rajshahi. The present study also plans to explore the linkage between teenage pregnancy and different socio-economic factors and the extent the factors influencing teenage motherhood in Rajshahi in Bangladesh.

Methodology

In this study, the cross-sectional sample design is used to collect primary data from 500 ever-married women of 15-49 years selected through simple random sampling from Rajshahi City in Bangladesh. The prominent logistic regression analysis has been used because it does not require any distributional assumption and is used to obtain risk factors and to predict the probability of success. The model is widely used to access the influence of various socio-economic and demographic factors for controlling the effect of other variables on the likelihood of the occurrence of the event of interest. The dependent variable, teenage pregnancy is a dichotomous variable; coded as 1 (event occurring, i.e. teenage pregnancy) and 0 (event does not occurring). The independent variables may be categorical or continuous. Some selected independent variables such as women's education, husband's education, father's education, type of marriage, dowry, contraceptive use, physical violence, first birth interval, health care services after birth and religion have been considered in this study.

Results and Discussion

Background Characteristics: Table-1 reveals the percent distribution of women by socio-demographic variables. Age of respondents is an important demographic variable in pregnancy period. If one woman conceives pregnancy so early age than she must be facing various health problems in her reproductive life. From the table 1, it shows only 11 percent of the respondents

are in the age group <=20 years, 65.2 percent of respondents are in the age group 21-35 years and 23.8 percent are in above 36 years. Age at marriage is strongly related to pregnancy related activities, particularly family sizes, the duration of marriage life and the stability of the marriage etc. Early marriage of women indicates more reproductive exposure may results high fertility. To become mother in premature age is harmful for both mother and children. In this study, 80.4 percent of women marry before 18 years of age and rest of the women marry at later ages i.e. greater than 18 years of age. The world health organization considers pregnancy during an early age (less than 18 years) be to a time of high risk for poor maternity care. It is usually accepted that childbearing among women aged 15-19 double the risk of death due to pregnancy related causes compared to women in their twenties[14]. The result exhibits 72 percent of respondents have first birth before 20 year of age, 17 percent of respondents first births occur after 20 year of age, and only 11.0 percent of married women have no child.

Education of women is an important variable in this study. About one fourth of the totals are illiterate and second largest number of respondents 28.8 percent completed their primary level. The percentages of respondents those who studding class six to S.S.C are 32.8 percent and higher education is 15.2 percent that is so small. From the Table-1, we see that 25.0 percent respondents husband are illiterate, 26.2 percent respondents husband complete their primary level, 26.6 percent respondents husband completed SSC level and 22.2 percent respondents husband are higher educated. We also see that 50.60 percent women's fathers are illiterate, 28.0 percent have primary education, 13.2 percent are secondary education and 8.2 percent are higher educated. Religion is an important characteristic of the respondents. Although is a Muslim dominant country, various religious person such as Hindus, Buddhist, and Christian etc. live here. We observe that Majority (89.2%) of women are Muslims and rest of 10.8 percent others religious community.

The marriage pattern shows that 88.6 percent marriages are arranged and only 11.4 percent are love marriage. Dowry is the practice of the wife's family giving money to the husband's family to complete a marriage. It is widespread among all social classes-especially among rural people with lower educational levels. The choice of a wife is too often determined by the husband's need for money. Obtaining dowry money is often the priority for the husband's family, with little regard for the girl who will become the wife. 43.2 percent of the women are in favor of paying bride price for their daughters in the event of their marriage, although the practice is legally banned. Women reported that they start accumulating assets as dowry for girls just after their births. The remaining 56.8 percent are opposed to dowry culture, terming this problem as a 'social evil'. Most respondents laid emphasis on launching a 'social movement' against dowry culture along with strict enforcement of anti-dowry laws in order to combat this deep-rooted mal-practice. Medical checkup during pregnancy prove that healthcare for

pregnant women how much available in rural area of Bangladesh. It is found that 50.0 percent respondents do the medical checkups during last child birth. The women at the family felt that gender-based violence is on the increase. It has increased in their generation because of issues related to dowry.

While there are households where men never lift a hand against their wives, some form of physical torture occurs in the devastating majority of poor households. Most of this occurs in the lean season, when food is scarce. In this study, we see that about 18.2 percent respondents are faces in physical torture.

Table-1
Percent distribution of women in Rajshahi, Bangladesh by socio-demographic variables

Socio-demographic Variables	N	Percentage
Age		
<=20 years	55	11.0
21-35 years	326	65.2
36^+ years	119	23.8
Age at marriage		
<18 years	402	80.4
>=18 years	98	19.6
Teenage pregnancy		
<= 20 years	360	72.0
20^+ years	85	17.0
No child	55	11.0
Women's Education		
Illiterate	116	23.2
Primary	144	28.8
Secondary	164	32.8
Higher	76	15.2
Huband's Education		
Illiterate	125	25.0
Primary	131	26.2
Secondary	133	26.6
Higher	111	22.2
Father's Education		
Illiterate	253	50.6
Primary	140	28.0
Secondary	66	13.2
Higher	41	8.2
Religion		
Muslim	446	89.2
Others	54	10.8
Type of Marriage		
Arranged	443	88.6
Love	57	11.4
Dowry		
No	284	56.8
Yes	216	43.2
Health care services after birth		
Yes	250	50.0
No	250	50.0
Physical violence		
No	409	81.8
Yes	91	18.2

Table-2
Association between teenage pregnancy and some selected socio-demographic variables

Socio-demographic variables	Women's Age		Chi-square Test	
	Teenage (< 20 years)	Adult age (>=20 years)		
Women's Education Illiterate Primary Secondary Higher	89.3 89.1 79.4 35.0	10.7 10.9 20.6 65.0	$\chi^2_{cal}= 6.92$ $\chi^2_{tab}=7.81$ $\rho=0.03$	Significant
Husband's Education Illiterate Primary Secondary Higher	87.4 88.7 85.2 50.0	12.6 11.3 14.8 50.0	$\chi^2_{cal}=5.36$ $\chi^2_{tab}=7.81$ $\rho=0.02$	Significant
Father's Education Illiterate Primary Secondary Higher	88.0 80.6 64.3 38.9	12.0 19.4 35.7 61.1	$\chi^2_{cal}=5.53$ $\chi^2_{tab} = 7.81$ $\rho=0.01$	Significant
Type of Marriage Arranged marriage Love marriage	83.1 60.5	16.9 39.5	$\chi^2_{cal}=3.86$ $\chi^2_{tab}= 5.99$ $\rho=0.02$	Significant
Dowry No Yes	76.7 86.5	23.3 13.5	$\chi^2_{cal}=4.75$ $\chi^2_{tab}=5.99$ $\rho=0.04$	Significant
Health care services after birth No Yes	85.2 77.9	14.8 22.1	$\chi^2_{cal}=9.62$ $\chi^2_{tab}=5.99$ $\rho=0.12$	Insignificant
Contraceptive use No Yes	83.9 80.1	16.1 19.9	$\chi^2_{cal}=5.78$ $\chi^2_{tab}=3.84$ $\rho=0.29$	Insignificant
Physical violence No Yes	80.6 82.7	19.4 17.3	$\chi^2_{cal}=.171$ $\chi^2_{tab}= 3.84$ $\rho=0.02$	Significant
First Birth Interval <24 months >=24 months	84.5 69.9	15.5 30.1	$\chi^2_{cal}=1.92$ $\chi^2_{tab}=3.84$ $\rho=0.001$	Significant
Husband's income <5000 5000+	79.6 25.0	20.4 75.0	$\chi^2_{cal}= 1.15$ $\chi^2_{tab}=3.84$ $\rho=0.001$	Insignificant
Religion Muslim Others	85.9 70.1	14.1 29.9	$\chi^2_{cal}=2.18$ $\chi^2_{tab}=3.84$ $\rho=0.04$	Significant

Table-3
Results of logistic regression analysis affecting teenage pregnancy in Rajshahi

Characteristics	Odd ratio Exp(*β*)	*p*-value	95% CI	
			Lower	Upper
Women's education				
Illiterate	2.453	0.009	2.115	2.789
Literate	1.000	-	-	-
Husband's education				
Illiterate	1.371	0.025	1.267	2.531
Literate	1.000	-	-	-
Fathers education				
Illiterate	1.000	-	-	-
Literate	0.459	0.016	0.265	0.796
Type of marriage				
Love	1.052	0.135	0.973	2.145
Arranged	1.000	-	-	-
Dowry				
Yes	1.753	0.034	1.567	3.157
No	1.000	-	-	-
Contraceptive use				
No	1.000	-	-	-
Yes	1.114	0.770	0.541	2.291
Physical violence				
No	1.000	-	-	-
Yes	1.239	0.021	1.185	2.134
First birth interval				
<24 months	1.000	-	-	-
>=24 months	0.497	0.015	0.283	0.873
Religion				
Muslim	1.000	-	-	-
Others	0.331	0.023	0.171	0.661

Factors Effect on Teenage pregnancy: In this study, teenage pregnancy is considered as pregnancy less than 20 years. Table-2 presents the association between childbearing in teenage and some selected socio-demographic variables. The result shows that the number of illiterate women is 89.3 percent at teenage and 10.7 percent at above 20 years. It also indicates that 89.1 percent teenage women are primary education 79.4 percent are secondary educated women and 35.0 percent are higher secondary respectively whereas 10.7 percent, 10.9 percent, 20.6 percent and 65.0 percent women of above 20 years are respectively illiterate, primary secondary and higher education completed. We have calculated chi-square value for the association between women's education and teenage pregnancy which is 6.92 with degrees of freedom 3 and the tabulated value is 7.81 at 5 percent level of significance which implies that calculated chi-square is less than tabulated chi-square value. Hence there is significant association between teenage pregnancy and women's education.

We can see that, age less than 20 years the number of illiterate husband is 87.4 percent and over 20 years the number of illiterate husband is 12.6 percent. We have also calculated of chi-square value for the association between husband's education and teenage pregnancy, which implies that calculated chi-square is less than tabulated chi-square value. Hence there is significant association between teenage pregnancy husband's education (*p*-value is 0.03). Similarly, the bivariate analysis in the Table-2 provides that father's education, type of marriage, dowry, physical violence, first birth interval and religion are significantly associated with teenage pregnancy. However, contraceptive use, health care services after birth and husband's income are insignificant with teenage pregnancy.

Determinants of Teenage pregnancy: The multivariate logistic regression analysis has been used to know the determinants of teenage pregnancy in Rajshahi, Bangladesh. To perform logistic regression analysis, the dependent and independent variables have been categorized as follows. Those variables are significant in bivariate analysis have been considered for multivariate analysis in this section. The results of logistic regression analysis which depict the effects of different variables on teenage pregnancy of women are presented in Table 3. An odds ratio of greater than 1.000 suggests an increase likelihood of the event, while an odd ratio less 1.000

indicates the decrease likelihood of the event of occurring. The category with the relative odds of 1.000 presents the reference category of the categorical variables. According to the fitted model as shown in the table 3, independent variables are statistically significant at 5 percent and 10 percent level and rest of the independent variables are statistically insignificant. The results of significant variables are discussed in this study.

Women's education has important impact on teenage pregnancy in Rajshahi, Bangladesh. Illiterate women are about 2.5 times higher odds of being teenage pregnancy than older women. Women whose husbands are illiterate they give birth 37 percent higher probability than women whose husbands are literate. In case of respondent's educated father, it is found that the risk of teenage fertility is significantly 54 percent lower than their counterparts. This means that respondent's father education have negatively significant effect on teenage pregnancy of women. From the Table-3, given dowry in marriage of respondent's odds ratio is 1.173 respectively. The confidence interval is 1.567 and 3.157. This means that given dowry in marriage has positively significant effects on teenage pregnancy of women. Teenage pregnancy of women for given dowry in marriage is 1.753 times higher of teenage pregnancy than women who don't have given practices of dowry. Physical violence this is positively significant effect on teenage pregnancy of women. The risk is 24 percent more and confidence interval is 1.185 to 2.134. First birth interval also have significantly related with teenage pregnancy. This means that long duration of first child after marriage has negatively significant effects on teenage pregnancy of women. The teenage pregnancy of women between marriage and first child of greater than 24 months is 50 percent lower than women who have short birth interval of less than 24 months. In case of religion, it is found that the odds ratio is 0.331 respectively. The confidence interval is 0.171 to 0.661. This means that religion has negatively significant effects on teenage pregnancy of women. Teenage pregnancy of women for others religions have 67 percent lower than women of Muslim religion.

Conclusion

The findings of this study suggest that adolescent childbearing is a common incident in Rajshahi in Bangladesh. Early marriage is directly associated with early childbearing in this region and higher incidents of early marriage result higher prevalence of teenage motherhood. High incidence of adolescent childbearing in Rajshahi, need immediate policy and special program should be frame to prevent the child marriage and teenage pregnancy. Adolescents and their guardians should be made more aware of the adverse health outcomes, social and economic consequences of early marriage and early childbearing. In addition, not the level of education by itself, but mainly the way in which woman's education is evaluated on the labour market, is important in treating the effect of education on the timing of first birth. The current social and cultural norms are still in favour of girls to get marry earlier and to have early childbirth

in Rajshahi. It is, therefore, crucial to target young women with accurate information on reproductive health to provide them with basic life skills and reproductive health in order to enable them to avoid early sexual activity and ultimately teenage pregnancy.

In addition, user-friendly reproductive health services should be availed to the young women who are sexually active to enable them to avoid unwanted and mistimed births. Moreover, pregnant teenagers face many obstacles in exercising their rights due to rigid social and cultural norms, limited access to financial resources, and restrictive government policies. Social movement and social campaigns may play vital role in reducing teenage motherhood highlighting the adverse outcomes of early marriage, long run health consequences of mothers and child. If the trends of teenage pregnancy continue it would be difficult to ensure healthy life of mothers and child and to achieve the replacement level of fertility in Rajshahi. Governments should strictly adopted laws and policies to protect and promote the rights and health of teenagers.

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