Delaying first pregnancy in reducing burden of unintended pregnancy among married adolescents in urban slums of Bangladesh
A situation analysis

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Abstract

Purpose – The purpose of this paper is to assess the effect of delaying first pregnancy in reducing burden of unintended pregnancy (UP) among married adolescent girls in urban slums of Bangladesh.

Design/methodology/approach – This cross-sectional survey was conducted among 783 married adolescents in five urban slums of Bangladesh during January 2013–January 2014.

Findings – Half of the respondents' first pregnancy was reported as unintended. Of the respondents, 58 percent with no school education had experienced UP which was 38 percent among respondents with eight year's education. Respondents who did not willingly agreed to their marriage experienced more UP (61 percent) than those who were agreed/got married by their own choice (51 percent). Respondents having five years of age difference with their husbands experienced more UP (58 percent) than those with ten years of age difference (46 percent). Respondents aged 14 years at first conception experienced 63 percent UP, while the respondents aged 18 years had 35 percent UP experience. Of the respondents, 66 percent who became pregnant within one year of marriage reported their pregnancy as unintended which was 29 percent among those who delayed their first pregnancy for three years.

Originality/value – Significant association was observed between pregnancy intention with respondents' educational status ($p = 0.03$), age difference with husbands ($p = 0.02$), age at first conception ($p < 0.01$) and delaying first pregnancy ($p < 0.001$).

Keywords Bangladesh, Unintended pregnancy, Married adolescent girls, Delaying first pregnancy, Urban slums

Paper type Research paper

Introduction

Unintended pregnancies (UP) constitute one-fifth of the 210m pregnancies that occur globally each year[1], and are reported to have been either mistimed, i.e. pregnancy occurred earlier than desired, or unwanted, i.e. pregnancy occurred when no more children were desired[2]. Unsafe abortion, often an outcome of an unintended pregnancy (UP),

results in the deaths of 80,000 women every year, 95 percent of which take place in developing countries[1, 3]. Unintended pregnancies among adolescents is an issue of global concern that has considerable implications for maternal, neonatal and child health[4]. In low- and middle-income countries, complications of pregnancy and childbirth among adolescents represent 23 percent of the overall burden of disease and are the leading cause of death among girls aged 15–19 years[5].

In Bangladesh, early marriage and childbearing has led to an adolescent fertility rate of 128 births/1,000 girls aged 15–19 years that is among the highest in the Asia Pacific[6]. Evidence showed that 32 percent of the married adolescent girls aged 15–19 years have begun childbearing, and prevalence of UP at least once in their lifetime among married adolescent girls in urban Bangladesh is 24 percent[7, 8]. Adolescent pregnancy is correlated with pregnancy-related complications, preterm delivery, delivery of low-birth-weight babies, poor educational and economic outcomes for both mother and child and spousal violence [3, 9, 10]. Evidence showed that one-year increase in age at marriage decreases the chance of teenage first birth by 10 percent or more in Bangladesh[11]. Level of education is also identified as a much stronger fact of adolescent motherhood[12]. Findings showed that higher education levels and financial autonomy are vital motives for new family formation and delayed childbearing[13–16]. We designed this study to assess the effect of delaying first pregnancy in reducing burden of UP among married adolescent girls in urban slums of Bangladesh.

Methods
This cross-sectional survey was conducted between January 2013 and January 2014 among married adolescent girls in five slum areas of Dhaka City Corporation of Bangladesh: Mirpur, Shyampur, Kamrangirchar, Shekhertek and Rayerbazar. Slums are the settlements that generally grow in government/semi-government/private vacant land or in abandoned building/houses with very high population density (over 300 persons per acre), predominantly poor housing conditions, poor and inadequate water supply, sewerage condition, sanitation systems, lighting and road facilities[17]. The study population was the married adolescent girls aged 15–19 years living in the selected five urban slums.

Sampling technique
To identify the eligible respondents, the field team members started from a NGO-operated local health facility in each slum using an existing map of the area. They began by spinning a bottle at the NGO health facility to determine the first household based on the direction of the bottle. Inclusion criteria for the respondents were as follows: girls' aged 15–19 years; married for more than 12 months; having at least one pregnancy or childbirth; and lived in the slum for more than 12 months. If a household had two or more eligible respondents, all of them were listed. If no one in the household found eligible, the team members moved to the next household. After visiting 10,989 households in all five slums, 792 married adolescent girls were identified who fulfilled the criteria. Respondents identified in each study area were then invited to participate in the survey. Among them, nine of the respondents refused to participate in the survey; finally, 783 respondents from the five study areas were interviewed.

The selected 783 respondents were interviewed face-to-face at their household level. All respondents provided informed written consent prior to interview. Written assent was taken from the spouse/guardian/in-laws of the respondents who were below 18 years of age. Six female field research assistants and one female field research supervisor were trained to use a structured questionnaire to collect information on respondents' socio-demographic characteristics, reproductive experiences and pregnancy intentions and outcomes. One additional visit was made for those respondents who worked outside home and their interviews were conducted at a time convenient to them.

Data were entered through Oracle 11G, analyzed using STATA 13.0 (Stata, College Station, TX, USA) and then interpreted. The study was approved by the Institutional Review Board (IRB) of the Population Council, New York, USA (Protocol no. 575; approved on January 16, 2013) and by the IRB of International Centre for Diarrhoeal Disease Research, Bangladesh (Protocol no. PR-13011; approved on April 17, 2013).

Results

A total of 783 married adolescent girls were enrolled from the five slums and almost equal number of respondents were selected and interviewed from each study areas (Mirpur: 157, Shyampur: 152, Kamrangirchar: 163, Shekhertek: 155, and Rayerbazar: 156).

Socio-demographic information

Study findings showed that mean age of the respondents was 17.7 years. Of the respondents, 17.9 percent never attended school; 8.7 percent of the respondents and 15.8 percent of the respondents' spouses had completed more than eight years of basic education in schools. Less than one-fifth (14.8 percent) of the respondents worked outside home for earning money and only 7.8 percent of them had the decision-making power in doing family expenditure (Table I).

Marriage and pregnancy history

Majority (91.6 percent) of the respondents willingly consented to their marriage arranged by the family. Age difference between the couples was found ⩽5 years among 33.7 percent of the respondents, between 6 and 10 years among 53.8 percent and ⩾10 years among 12.5 percent of the respondents (Table I).

Around one-fifth (17.8 percent) of the respondents first conceived at the age of ⩽14 years or less and three-fourths (71.4 percent) between 15 and 17 years of age. Only 9.6 percent of the respondents could delay their first pregnancy for three years or more. One-half (50.7 percent) of the respondents reported their first pregnancy as unintended (Table I).

Pregnancy intentions and its association with different factors

Around three-fifths of the respondents in the Kamrangirchar (57.7 percent), Shekhertek (60.6 percent) and Rayerbazar (61.5 percent) reported their first pregnancies as unintended (Table II).

More than one-half (57.9 percent) of the respondents with no school attendance stated their first pregnancy as unintended which was substantially less (38.2 percent) among the respondents with eight or more years of basic education in schools. Education level of the husbands of the respondents had no significant influence on pregnancy intention (Table II).

No difference on pregnancy intention was observed between the respondents' worked outside home to earn money (51.7 percent) and the respondents who did not work to earn money (50.5 percent). Respondents who had influence on decision making in family expenditure experienced more intended pregnancies (63.9 percent) during their first conception (Table II).

Respondents who did not willingly consented to their marriage which was arranged by the family experienced more unintended pregnancies (60.6 percent) compared to those who happily consented to their arranged marriage or got married by their own choice (51.2 percent) (Table II).

Significant association between age differences among couples and pregnancy intention was observed. Respondents with ⩽5 year's age difference with their husbands experienced significantly more unintended pregnancies (57.6 percent) than those with ⩾10 year's age difference with their husbands (45.9 percent) (Table II).

Characteristics	n = 783	%
Study area		
Mirpur	157	20.1
Shaympur	152	19.4
Kamrangirchar	163	20.8
Shekhertek	155	19.8
Rayerbazar	156	19.9
Respondent's current age (in completed years)		
Mean (±SD)	783	17.7 (1.1)
Education of respondents (in completed years)		
No education	140	17.9
1–8 years of education	575	73.4
>8 years of education	68	8.7
Education of respondents' spouses (in completed years)		
No education	208	26.6
1–8 years of education	451	57.6
>8 years of education	124	15.8
Worked for earning money		
Yes	116	14.8
No	667	85.2
Had decision making power in family expenditure		
Yes	61	7.8
No	722	92.2
Agreed to marriage		
Love marriage	301	38.5
Agreed with arranged marriage	416	53.1
Did not agree with arranged marriage	66	8.4
Age difference between respondents' and their spouses (in completed years)		
⩽5	264	33.7
6–10	421	53.8
>10	98	12.5
Respondent's age at first conception (in completed years)		
⩽14	139	17.8
15–17	559	71.4
⩾18	85	10.8
Delaying first pregnancy (months)		
⩽12	225	28.7
12–35	483	61.7
>35	75	9.6
Pregnancy intention		
Unintended	397	50.7
Intended	386	49.3

Table I.
Socio-demographic
characteristics of the
study respondents

Respondents aged ⩽14 years and ⩾18 years during the first conception had significant differences (63.3 vs 35.3 percent) on having experience of UP (Table II). Of the respondents, 65.8 percent who became pregnant within one year of marriage reported the pregnancy as unintended which was found 29.3 percent among the respondents who delayed their first pregnancy for three years or more (Table II).

Characteristics	Intended $n = 386$	Unintended $n = 397$	p-value
Study area			
Mirpur	107 (68.2)	50 (31.9)	
Shaympur	89 (58.6)	63 (41.5)	
Kamrangirchar	69 (42.3)	94 (57.7)	
Shekhertek	61 (39.4)	94 (60.6)	
Rayerbazar	60 (38.5)	96 (61.5)	< 0.01
Education of respondents (in completed years)			
No education	59 (42.1)	81 (57.9)	
1–8 years of education	285 (49.6)	290 (50.4)	
> 8 years of education	42 (61.8)	26 (38.2)	0.03
Education of respondents' spouses (in completed years)			
No education	112 (53.9)	96 (46.1)	
1–8 years of education	207 (45.9)	244 (54.1)	
> 8 years of education	67 (54.0)	57 (46.0)	0.09
Worked for earning money			
Yes	56 (48.3)	60 (51.7)	
No	330 (49.5)	337 (50.5)	0.81
Had decision-making power in family expenditure			
Yes	39 (63.9)	22 (36.1)	
No	347 (48.1)	375 (51.9)	0.02
Agreed to marriage			
Love marriage	147 (48.8)	154 (51.2)	
Agreed with arranged marriage	213 (51.2)	203 (48.8)	
Did not agree with arranged marriage	26 (39.4)	40 (60.6)	0.20
Age difference between respondents and their spouses (in completed years)			
⩽5	112 (42.4)	152 (57.6)	
6–10	221 (52.5)	200 (47.5)	
> 10	53 (54.1)	45 (45.9)	0.02
Respondent's age at first conception (in completed years)			
⩽14	51 (36.7)	88 (63.3)	
15–17	280 (50.1)	279 (49.9)	
⩾18	55 (64.7)	30 (35.3)	< 0.01
Delaying first pregnancy (months)			
⩽12	77 (34.2)	148 (65.8)	
12–35	256 (53.0)	227 (47.0)	
> 35	53 (70.7)	22 (29.3)	< 0.001

Table II.
Percent distribution of pregnancy intention by the respondents' socio-demographic characteristics

Crude and adjusted odds ratios (ORs) were estimated to determine the factors associated with unintended pregnancies (Table III). Compared to respondents resided in Mirpur slum, respondents in other four slums were more likely to have experience of unintended pregnancies. The magnitude of UP was highest among the respondents in Shekhertek slum (adjusted OR: 3.57; 95% CI: 2.2–5.6) and was relatively lower among respondents in Shaympur, Kamrangirchar and Rayerbazar slums (Table III).

Respondents with eight or more years of basic school education were 48 percent (adjusted OR: 0.52; 95% CI: 0.3–1.0) less likely to have unintended pregnancies as compared to respondents with no schooling experience (Table III).

Characteristics	OR (95% CI)	Adj. OR (95% CI)
Study area		
Mirpur	1.00	1.0
Shaympur	1.51 (0.95–2.42)	1.46 (0.89–2.37)
Kamrangirchar	2.92 (1.82–4.68)	2.58 (1.58–4.22)
Shekhertek	3.30 (1.94–5.60)	3.51 (2.18–5.63)
Rayerbazar	3.42 (2.31–5.07)	3.47 (2.06–5.86)
Education of respondents (in completed years)		
No education	1.00	1.00
1–8 years of education	0.74 (0.49–1.12)	0.82 (0.54–1.25)
> 8 years of education	0.45 (0.26–0.80)	0.52 (0.27–1.01)
Age difference between respondents' and their spouses (in completed years)		
⩽5	1.00	1.00
6–10	0.67 (0.49–0.90)	0.62 (0.43–0.88)
> 10	0.63 (0.37–1.05)	0.48 (0.25–0.90)
Respondents' age at first conception (in completed years)		
⩽14	1.00	1.00
15–17	0.58 (0.41–0.81)	0.83 (0.55–1.26)
⩾18	0.32 (0.18–0.54)	0.48 (0.28–0.82)
Delaying first pregnancy (months)		
⩽12	1.00	1.00
12–35	0.46 (0.34–0.63)	0.46 (0.31–0.67)
> 35	0.22 (0.13–0.36)	0.22 (0.10–0.45)
Had decision making power in family expenditure		
Yes	0.52 (0.28–0.96)	0.79 (0.41–1.52)
No	1.00	1.00

Table III.
Determinants of unintended pregnancies among the study respondents

Difference between couples age was also identified as an associated factor of UP. Respondents with > 10 years age difference with their husbands were 52 percent (adjusted OR: 0.48; 95% CI: 0.3–0.9) less likely to have experience of UP compared to the respondents with < 10 years age difference with their husbands (Table III).

Respondents who first conceived at the age of ⩾18 years were 52 percent (adjusted OR: 0.48; 95% CI: 0.3–0.8) less likely to have unintended pregnancies than that of the respondents who first conceived at the age of ⩽14 years (Table III).

Respondents who delayed their first pregnancy for ⩾3 years were 78 percent (adjusted OR: 0.22; 95% CI: 0.1–0.5) less likely to have unintended pregnancies as compared to those who conceived within one year of marriage (Table III).

The respondents having decision-making power in family expenditure were 21 percent (adjusted OR: 0.79; 95% CI: 0.4–1.5) less likely to have unintended pregnancies as compared to those who had no influence on decision making in family expenditure, though the association was not significant (Table III).

Outcomes of unintended pregnancies
Significant association ($p < 0.01$) was observed between respondents' pregnancy intention by their outcomes. Proportion of pregnancies resulted in live births was higher among intended than among unintended pregnancies (91 and 87 percent, respectively). On the contrary, proportion of pregnancies resulted in spontaneous abortion was equal (6 percent) among intended and unintended pregnancies. However, induced abortion was observed only among respondents with unintended pregnancies (5 percent). Nearly one-fifth (19 percent) of

the respondents with unintended pregnancies experienced abortion (either spontaneous or induced) when conceived within one year of marriage; however, pregnancy outcomes of all the respondents with unintended pregnancies resulted in live births when they delayed their first pregnancy for three years or more.

Discussion

This study found that one-half of the respondents' first pregnancy was unintended which was more than twice higher among a similar group of adolescent girls in their lifetime in all urban or rural areas of Bangladesh[7].

This study also identified significant association of respondents' pregnancy intention with their area of residence, education status, willingness to get married, i.e. willingly consented to marriage, age difference between spouses, decision-making power in family expenditure, age at first conception and delaying first pregnancy.

UP was found higher among the respondents in Rayerbazar, Shekhertek and Kamrangirchar compared to those in Mirpur and Shyampur in this study. Socio-economic condition of the former three slums was poorer than that of the latter two in terms of population density, health service provision and local NGO activities. Another study also found correlation of low socio-economic status and limited education with adolescent pregnancy and adverse pregnancy outcomes[18].

Significant association between mother's age and UP was also observed in other studies where married adolescent girls less than 16 years of age found three times more likely to have an experience of UP than their comparatively older counterparts (20 years or more)[19].

Significant association was observed between pregnancy intention and age differences between couples. Couples with less age difference experienced more unintended pregnancies than that of the couples with more age differences. It can be assumed that relatively older husbands have better understanding and competence to convince their adolescent wives than that of their younger fellows. Spousal age differences act as an indicator of the nature of the marital bond, and hence influences the couple's fertility preferences[20].

Findings from the current study also identified that respondents' age at first conception substantially influenced pregnancy intention, and delaying first pregnancy by three years or more was significantly associated with UP reduction. This was also observed that majority of the intended pregnancies resulted in live births. However, abortion, as a pregnancy outcome, was found two times higher in respondents with unintended pregnancies than that of the intended pregnancies. It is anticipated that several factors including lack of proper knowledge and information, access to information and services, cost of FP methods and services which poor people cannot afford to buy regularly, shyness to buy FP commodities from the pharmacies particularly when there were known elders sitting inside the pharmacy might cause non-use or irregular use of methods resulting UP which, in some cases, compels the young married adolescent girls making decisions regarding poorer pregnancy outcome. Consistent use of FP should help them avoid unintended pregnancies that require complex decisions on whether to terminate or continue with the pregnancy.

This study also revealed that respondents with unintended pregnancies experienced more abortion when conceived within one year of marriage than the respondents who delayed their first pregnancy for three years or more. Although early age at marriage has an important contribution to have had unintended pregnancies but age at conception was identified as a considerable attribute of pregnancy intention.

Findings from this study should be interpreted in light of some limitations. Although multiple attempts were made to reach potential respondents, many employed married adolescent girls may have systematically been excluded from participation in this survey because data were collected during daytime when most of them were at their workplace.

Data on socio-economic status of the respondents in this study were not captured, hence those indicators by study areas could not be compared. Study findings could also be affected by recall bias given that information was based on respondents' self-reports. Additionally, the background and practices of married adolescent girls in urban slums in this study may not be generalized to other parts of the country.

Conclusions

Difference in education, income generation and decision-making power at family level appeared to be playing an important part in the lives of the married adolescent girls in urban slums. Individuals with fewer potential may have less flexibility to adapt their family formation that may resulted in unintended pregnancies and poorer pregnancy outcomes. Promising interventions, such as a platform, or a gathering of the peers to provide relevant comprehensive information and services to the poorest, least educated, married adolescent girls in urban slums to delay their first pregnancy can be a national priority to reduce the burden of early, unintended pregnancies and the associated maternal mortality and morbidities. Engagement and support of families and communities is needed to ensure empowerment of the adolescent girls. Findings from this study are of crucial interest to policy and decision makers who set up policies for adolescent girls' education, health and well-being. Needs of the married adolescent girls should be addressed during policy and program formulation in Bangladesh.

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