Domestic Violence, Unwanted Pregnancy and Pregnancy Termination among Urban Women of Bangladesh

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Abstract

Objective: This paper explores the relationship between domestic violence against women inflicted by husbands, unwanted pregnancy and pregnancy termination of Bangladeshi urban women.

Materials and methods: The study used the nationally representative 2007 Bangladesh Demographic and Health Survey (BDHS) data. The BDHS covered a representative sample of 10,996 ever married women from rural and urban areas. The BDHS used a separate module to collect information from women regarding domestic violence. The survey gathered information of domestic violence from 1,013 urban women which are the basis of the study. Simple cross tabulation, bivariate and multivariate statistical analyses were performed to analyzing data.

Results: Overall, the lifetime prevalence of domestic violence was 47.5%. Of the most recent pregnancies, 15.6% were unwanted and 16.0% of the women terminated pregnancy in their marital life. The multivariate binary logistic regression analyses yielded quantitatively important and reliable estimate of unwanted pregnancy and pregnancy termination. The regression analyses yielded significantly ($p<0.05$) increased risk of unwanted pregnancy only for physical violence (OR=2.35, 95% CI=1.28-4.32) and for both physical and sexual violence (OR=2.27, 95% CI=1.02-5.28), and higher risk of pregnancy termination for only physical violence (OR=1.41, 95% CI=0.95-2.10) and for both physical and sexual violence (OR=1.81, 95% CI=1.07-3.04) than women who were never abused. Current age, higher parity and early marriage are also important determinants of unwanted pregnancy and pregnancy termination.

Conclusion: Violence against women inflicted by husbands is commonplace in Bangladesh. Any strategy to reduce the burden of unwanted pregnancy and induced abortion should include prevention of violence against women and strengthening women's sexual and reproductive health.

Keywords: Bangladesh, Domestic Violence, Unwanted Pregnancy, Pregnancy Termination, Logistic Regression

Introduction

In this study it is our aim to explore the relationship between DV against wives and unwanted pregnancy and induced abortion among women of urban Bangladesh. Although, studies on violence against women (VAW) in Bangladesh are not rare, a little is known on the unwanted pregnancy and pregnancy termination, i.e., induced abortion among urban women and their relationships with domestic violence (DV) inflicted by husbands. To our knowledge it is the first study to explore these relationships in urban

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setting through using a nationally representative sample survey data.

VAW is a global public health concern. DV against women, i.e., intimate partner violence (IPV) contributes greatly to morbidity and mortality, especially in women. It is also associated with injury and negative mental and reproductive health outcomes (1). IPV occurs in every country and in all social, cultural, economic, and religious groups. The most common forms of VAW are physical, sexual and emotional abuse by a woman's husband or intimate partner. DV is also considered as a violation of human rights and has, therefore, received increased global attention by international organizations and human rights committees during the past two decades (2).

It is well known fact that the prevalence of physical or sexual violence against wife inflicted by husband varied widely across countries. Worldwide, 48 population-based surveys have improved our understanding that, 10-70% of women reported being hit or otherwise physically harmed by an intimate male partner at some point in their lives (3, 4). From a more recent comparative study we have learned that Bangladesh ranked the highest among ten developing countries in life time and recent (in the last twelve months prior to the survey) DV against wife (5). In Bangladesh, 75% women experienced life time physical or sexual violence and one-third of the women experienced physical or sexual violence in the past twelve months (5).

In recent decades VAW has emerged as one of the most pressing and intractable social problems across regional and cultural boundaries. This is because; women, who experience physical, sexual, or psychological violence, suffer a range of health problems, often in silence. They have poorer physical and mental health, undergo more injuries, and use more medical resources than non-abused women. Abused women often live in fear and suffer from obstetric complications, depressive symptoms (6, 7), anxiety, and even post-traumatic stress disorder (8) etc.

VAW is associated with many other serious reproductive events. These include non-use of contraception (9), unwanted and unplanned pregnancies (6,10,11), a greater proportion of pregnancy terminations than among non-victimized women, sexually transmitted diseases (STDs), including HIV infection (12), and poor birth outcomes, which may include even the death of both mother and child (8,13).

Although DV includes child abuse, parent abuse

and in-law abuse committed by male aggressors on female victims, available information have increased our knowledge that the "most common type of violence in Bangladesh against women is DV perpetrated by intimate partners or ex partners" (14). Many Bangladeshi women endure daily beatings, harassment for dowry, verbal abuse and acid attacks for refusing to comply with male demands. For many, home is not a haven but a place of pain and humiliation, where violence is an integral part of everyday life hidden behind closed doors and avoided in public discussion (15).

Studies conducted so far on the VAW in Bangladesh perpetrated by husband, are mostly confined to examine the prevalence, socioeconomic correlates of DV against wife (16,17,18), nature of DV (19) and women's acceptance of violence by husbands (20). Some studies have also tried to find the relationship between DV and mortality risk of under-five children (21), sexual risk and STDs (22) etc. Yet, the relationship between IPV and women's ability to control their fertility has not been adequately explored, especially among urban women in developing countries (10,23,24), including Bangladesh.

Materials and methods

The study used 2007 Bangladesh Demographic and Health Survey (BDHS) data. The BDHS covered a nationally representative sample of 10,996 ever married women of reproductive age from 10,400 households covering 361 sample clusters, 134 in urban areas and 227 in the rural areas throughout Bangladesh. Data collection took place over a five-month period from March to August 2007. The survey was conducted under the authority of the National Institute for Population Research and Training (NIPORT) of the Ministry of Health and Family Welfare by the financial support of the US Agency for International Development (USAID). The details of the survey are given elsewhere (25).

The survey obtained detailed information on fertility levels (number of children ever born to women in their reproductive age), marriage (age at marriage and duration of marriage), fertility preferences (desire to have more children or to stop childbearing), awareness and use of family planning methods, nutritional status of women and children, maternal and child health, knowledge and attitudes regarding HIV/AIDS and other STDs, DV, pregnancy intention status of in the last five years preceding the survey date, pregnancy termination etc. The BDHS

did not gather information on domestic violence from all participants. Information regarding DV from a weighted sub-sample of only 4,181 women was elicited in the violence module of the DHS, of whom 1,013 women were from urban areas. Of them, 480 women had had at least one live birth or were currently pregnant at the time of survey. Hereafter, these subgroups of women are referred to as 'most recently pregnant women' and are the basis of the study of unwanted pregnancy. Besides, all the 1,013 women were included in the analyses of 'ever performed induced abortion'.

Measuring domestic violence

Violence is an extremely diffusive and complex phenomenon. Defining it is not an exact science but a matter of judgment. The World Health Organization (26) defines violence as: "the intentional use of physical force or power, threatened or actual, against oneself or another person, or against a group or community that either results in or has a high likelihood of resulting in injury, death, psychological harm, mal-development or deprivation".

The definition encompasses interpersonal violence as well as suicidal behavior and armed conflict. It also covers a wide range of acts, going beyond physical acts to include threats and intimidation. Besides death and injury, the definition also includes the myriad and often less obvious consequences of violent behavior, such as psychological harm, deprivation and mal-development that compromise the well-being of individuals, families and communities (26).

The 2007 BDHS measured spousal violence with a shortened and modified conflict tactics scale. Women were asked whether their present husbands ever or in the last twelve month prior to the survey date pushed, slapped, twisted arm, punched with fist, kicked or dragged, tried to choke or burn, threatened or attacked with knife and physically forced to have sexual intercourse. A 'yes' response to one of the first seven items constitutes evidence of physical violence, while a 'yes' response to the last item reveals sexual violence. Further, a woman was classified as: 'abused ever' and 'abused in the last year', on the basis of her affirmative response to any of those questions.

Measuring unwanted pregnancy and induced abortion

The respondents were asked about the pregnancy intention status of all pregnancies they had had ended with a live birth in the last five years preceding the survey date including current pregnancy (if relevant). The questionnaire kept three options for response to the pregnancy intention status: wanted then, wanted later and had not wanted it at all. In this study, we considered only the most recent birth and current pregnancy. The birth or pregnancy, which was reported as 'wanted then' and 'wanted later' were termed as 'wanted' and the pregnancies reported as 'not wanted at all' at the time of pregnancy, was worded as 'unwanted'. In grouping the pregnancies as 'wanted' and 'unwanted', we followed an earlier study conducted on Colombian women (10). Indeed, we opted to make this variable dichotomous according to the response of the women with regard to the most recent pregnancy.

Another independent variable, 'induced abortion', i.e., 'termination of pregnancy' was assessed by the participants' self reported responses. All women were asked directly that, "Have you ever terminated a pregnancy?" The women replied either by 'yes' or 'no'. This variable was dichotomous by nature according to the response to this question.

Statistical analyses

We applied both quantitative and qualitative statistical techniques in analyzing the data. A comparison of descriptive statistics, between 480 women who had had experience pregnancy and among 553 women who did not report any childbirth in the last five years preceding survey or were not currently pregnant at the time of survey, has been shown for various socio-demographic, fertility related characteristics and violence history. These two groups of women have been compared through one-way analysis of variance (ANOVA) for continuous variable and *chi*-square tests for categorical variables to examine how much representative they were among all ever married urban women. Univariate binary logistic regression analyses were performed to examine the crude effects of the selected factors on the dependent variables. A woman, who reported that her most recent pregnancy was unwanted, was coded as '1' and '0' for otherwise. Besides, a woman, who reported that she had ever terminated pregnancy, was coded as '1' and '0' for otherwise. To assess the impact of socio-demographic and violence factors on pregnancy intention status and pregnancy termination, separate multivariate binary logistic regression models were constructed. The results of the logistic regression analyses have been presented

by odds ratios (ORs) with 95% confidence interval (CI). Data were analyzed by SPSS v17.0 software.

Results

Profile of the respondents

A comparison of the most recently pregnant women and the women who did not have experience of pregnancy in the last five years preceding the survey date has been shown in Table 1. The most recently pregnant women differed significantly from non-pregnant women by age, age at first marriage, number of children ever born and living children, residence, working status, education, wealth, place of region, ever use of contraception, husband-wife discussion on family planning (FP) and pregnancy termination. Although, there was no significant variation in the experience of lifetime violence, the most recently pregnant women were significantly more abused than non-pregnant women in any form in the last twelve months prior to the survey date.

Table 1 shows that among the most recently pregnant women the mean age, age at first marriage and age at first birth were 25.7 years, 16.2 years and 18.3 years respectively. The mean number of children ever born and living children were 2.3 births and 2.1 births respectively. Of the respondents, 15.6% reported their most recent pregnancy as 'unwanted'. A slightly over one-fourth (27.2%) of the recently pregnant women were currently working. Almost one-fifth (19.2%) had no formal education and more than half (53.7%) had at least secondary level of education, while a slightly over one-fifth (28.2%) had some primary education. More than half (53.1%) of the most recently pregnant women were from richest households, 16.5% were poor and 11.9% were from middle class households. More women (45.5%) were from Dhaka division and the rest were from other five administrative regions. Among the most recently pregnant women, 91.1% ever had used and 64.3% were currently using any contraceptive method. About three-fifths (59.3%) of the women discussed FP with their husbands in the last three months preceding the survey date. Almost 14.0% of the women terminated pregnancy at least once in their marital life. About one-fourth (24.8%) of the most recently pregnant women reported that their father ever physically abused their mother. Almost half (47.9%) of the most recently pregnant women experienced lifetime violence in any form, reporting with 32.9% experienced only physical violence, 3.1%

experienced only coerced sex and 11.8% reported both physical and sexual violence. Besides, more than one-fourth (26.3%) reported to have had experience of violence in the last twelve months preceding the survey date. Of them, 16.0% experienced only physical violence, 4.0% have had experienced only sexual violence and 6.3% have had experienced both physical and sexual violence. The most recent pregnant women were more abused than non-pregnant women in the last twelve months by their husbands.

Patterns of physical violence

Table 2 shows that, the most reported forms of physical violence ever inflicted by husbands against most recently pregnant women were slapping (43.6%), pushing, shaking or throwing something (26.2%), punching with fist (14.3%), kicking or dragging (13.5%), twisting arm or pulling hair (12.7%), trying to choke or burning (4.9%) and threatening with knife or any weapon (0.6%) respectively. Although the overall prevalence of different types of violence inflicted by husbands was lower in the last twelve months, the patterns remained almost the same. For instance, the most prevalent form of physical violence was slapping, followed by pushing, shaking or throwing something, punching with fist, kicking or dragging, twisting arm or pulling hair, trying to choke or burning and threatening with knife or any weapon respectively.

Differentials of unplanned pregnancy

Table 3 shows the prevalence of unwanted pregnancy by selected socio-demographic factors as well as the results of bivariate and multivariate logistic regression analyses of the unwanted pregnancy. Overall, 15.6% of the most recent pregnancies were unwanted. The bivariate logistic regression analyses demonstrate that odds of unwanted pregnancy among urban women increased significantly with age. Compared with women aged 15-24, the women aged 25-34 and 35-49 were more likely to have had at least one unwanted pregnancy in the last five year preceding the survey date. The lower was the age at first marriage and age at first birth, the higher was the risk of unwanted pregnancy. For instance, compared to the women who were married-off at age 18 or more, those married at age 10-14 and 15-17 were significantly (*p*<0.001) at higher risk of unwanted pregnancy.

Number of children ever born and number of living children showed significant association with

Table 1: Descriptive statistics of currently married women who had given at least one birth in the last five years or were currently pregnant, and of those who had not given birth during that time and were not currently pregnant, BDHS, 2007

Background characteristics	Recent birth or current pregnancy (N=480)	No recent birth or current pregnancy (N=553)	All women (N=1,013)
Demographic and fertility			
Mean current age***	25.7	36.0	31.2
Mean age at first marriage†	16.2	15.7	15.9
Mean age at first birth	18.3	18.1	18.2
Mean no. of children ever born***	2.3	2.9	2.6
Mean no. of living children***	2.1	2.6	2.4
% Most recent pregnancy was unwanted (%)	15.6	---	---
Socioeconomic and cultural			
% Muslim women (%)	92.1	89.6	91.0
% Women currently working†	27.2	32.2	29.9
% Women's education**			
Illiterate	19.2	29.3	24.6
Primary	28.2	28.6	28.3
Secondary	36.8	30.6	33.5
Higher	15.8	11.6	13.5
% Wealth index**			
Poorest	5.6	4.1	4.7
Poorer	10.9	5.6	8.0
Middle	11.9	8.7	10.2
Richer	18.5	18.0	18.2
Richest	53.1	63.7	58.8
% Division**			
Barisal	4.3	3.8	4.0
Chittagong	24.4	14.7	19.2
Dhaka	45.5	48.1	46.9
Khulna	9.4	12.0	10.8
Rajshahi	12.8	18.7	16.0
Sylhet	3.5	2.7	3.1
Fertility regulation			
% Ever used any contraceptives†	91.1	83.6	87.1
% Currently using contraceptives**	64.3	55.7	59.7
% Discussed FP with husband***	59.3	40.2	49.5
% Ever had terminated pregnancy*	13.4	18.3	16.0
Violence			
% Father ever physically abused mother	24.8	21.6	23.0
% Women were ever abused by husband***			
Physically only	32.9	35.4	34.2
Sexually only	3.1	2.3	2.7
Both physical and sexual	11.8	9.6	10.6
By any form	47.9	47.3	47.5
% Women abused by husband in the last 12 months*			
Physically only	16.0	12.5	14.1
Sexually only	4.0	2.5	3.2
Both physical and sexual	6.3	4.4	5.3
By any form (p<0.01)	26.3	19.4	22.6

Note: Level of significance *** $p<0.001$; ** $p<0.01$; * $p<0.05$; † $p<0.10$; and [ns] not significant.

Table 2: Percentage distribution of currently married women experienced various forms of violence perpetrated by their husbands ever and in the last twelve months preceding the survey by pregnancy status in the last five years preceding the survey, BDHS 2007

Forms of violence	Experience of violence among women					
	Recently pregnant		Not recently pregnant		All women	
	Ever	Last year	Ever	Last year	Ever	Last year
Physical violence	44.8	22.3	45.0	16.9	44.9	19.4
Pushed, shook or throwing something	26.2	13.4	29.2	10.8	27.8	12.0
Slapped	43.6	20.7	41.8	14.9	42.6	17.6
Punched with fist or something other	14.3	8.5	15.6	6.9	15.0	7.6
Kicked or dragged	13.5	8.2	15.0	6.9	14.3	7.5
Tried to choke or burn	4.9	4.0	6.9	3.7	5.7	3.8
Threatened with knife/gun/weapon	0.6	0.6	1.3	0.8	1.0	0.7
Twisted arm or pulled hair	12.7	8.8	16.6	7.1	14.8	7.8
Sexual violence	14.9	10.2	11.9	6.9	13.3	8.5
Any type of violence	47.9	26.3	47.3	19.4	47.5	22.6

Table 3: Logistic regression analyses showing the risk of unwanted pregnancy among urban women by socio-demographic background characteristics, BDHS 2007

Background characteristics	% unwanted pregnancy	Odds ratios with 95% confidence interval	
		Univariate LR	Multivariate LR
Current age			
15-24	3.7	1.00	1.00
25-34	21.0	7.00 (3.25-15.09)***	3.93 (1.61-9.59)***
35-49	49.6	25.87 (10.63-62.96)***	9.56 (3.25-28.16)***
Age at first marriage			
10-14	24.0	4.79 (2.21-10.42)***	2.99 (1.22-7.33)***
15-17	14.9	2.67 (1.19-5.98)**	1.70 (0.68-4.25)
18+	6.2	1.00	1.00
Age at first birth			
<18	21.1	3.25 (1.47-7.20)**	ns
18-20	16.3	2.38 (1.02-5.57)*	ns
21+	7.6	1.00	
Children ever born			
<3	4.2	1.00	ns
3+	36.3	12.84 (6.81-24.21)***	ns
Living parity			
<3	5.1	1.00	1.00
3+	40.4	12.72 (7.05-22.95)***	4.15 (1.99-8.66)***
Working status			
No	13.8	1.00	ns
Yes	20.4	1.59 (0.95-2.69)*	ns
Education level			
No education	25.6	4.02 (1.54-10.47)**	ns
Primary	20.9	3.09 (1.22-7.86)**	ns
Secondary	9.7	1.25 (0.47-3.32)	ns
Higher	7.9	1.00	ns
Discussed with husband on FP			
No	19.5	1.62 (0.97-3.20)*	ns
Yes	13.0	1.00	ns
Ever had terminated pregnancy			
No	14.7	1.00	ns
Yes	22.0	1.64 (0.86-3.15)†	ns
Husband ever abused			
No	10.4	1.00	1.00
Yes	21.3	2.33 (1.39-3.89)***	1.82 (1.01-3.30)*
Total	15.6		

Note: Level of significance *** $p<0.001$; ** $p<0.01$; * $p<0.05$; † $p<0.10$; and ns not significant.

pregnancy intention status. The women with three or more ever born and living children had significantly ($p<0.001$) increased risk of unwanted pregnancy as compared to those who had less than three ever born or living children. The working women as compared to their non-working counterparts were at higher risk to have had experience of unwanted pregnancy. Women's education showed significant ($p<0.01$) inverse association with unwanted pregnancy. The women who had never discussed FP with their husbands and those who had ever terminated pregnancy were more likely to report to have increased experience of unwanted pregnancy than women who ever had discussed FP with their husband and those who never went for pregnancy termination.

VAW perpetrated by husband had a significant association with unwanted pregnancy. Table 4 shows that, as compared to women who were never abused by any form of violence, the women who reported to have had experience of DV were significantly ($p<0.001$) (OR=2.3, 95% CI = 1.4-3.9) more likely to report to have had experience of unwanted pregnancy. Furthermore, the women who had been abused physically only and both physically and sexually, were at higher risk of unwanted pregnancy than the never-abused women. Surprisingly, only sexual violence appeared to have no significant association with unwanted pregnancy.

All the variables identified to have significant association with unwanted pregnancy, were included in the multivariate regression analysis to examine their net effects. After controlling over other socioeconomic, demographic and violence related variables, the factors: age, age at first marriage, number of living children and husband's violence against wives appeared to have significant relationship with unwanted pregnancy. The variables namely children ever born, working status, women's education, husband-wife discussion on FP and

pregnancy termination showed to have no significant effect on unwanted pregnancy after controlling over other confounding factors.

The fixed effect multivariate binary logistic regression analysis estimates the risk of unwanted pregnancy as a function of the women's background characteristics as mentioned in Table 1. Table 3 shows that, the addition of the women's background characteristics rather substantially attenuated the effects of different socio-demographic factors on unwanted pregnancy. Once the women's background characteristics were held constant, the relative odds of unwanted pregnancy was 1.82 times (95% CI=1.01-3.30) among women who ever had had experienced any type of DV perpetrated by husbands compared to never-abused women. The risk of unwanted pregnancy among ever abused women than those of never-abused were reduced after controlling over other confounding factors.

Table 3 shows that, the patterns of likelihood of unwanted pregnancy for age remained the same when other background characteristics were included in multivariate treatment. For instance, the risk of experience of unwanted pregnancy among the women aged 25-34 and 35-49 as compared to women aged 15-24 were 3.93 (95% CI=1.61-9.59) times and 9.56 (95% CI=3.25-28.16) times respectively. The women married at later ages were less likely to view their pregnancy as unplanned. For instance, compared to the women married-off at age 18 or above, the women married-off at age 10-14 and 15-17 were 2.99 (95% CI=1.22-7.33) times and 1.70 (95% CI=0.68-4.25) times respectively to report their most recent pregnancy as unwanted. Number of living children also had a significant net effect on unwanted pregnancy. The women with three or more children as compared to those with only two or lesser living children were 4.15 times (95% CI=1.99-8.66) more tended to have had experience of unwanted pregnancy.

Table 4: Logistic regression analyses showing the risk of unwanted pregnancy among urban women by types of domestic violence, BDHS 2007

Background characteristics	Odds ratios with 95% confidence interval	
	Univariate LR	Multivariate LR‡
Type of violence		
No violence	Reference	Reference
Only physical	2.26 (1.30-3.96)***	2.35 (1.28-4.32)***
Only sexual	1.50 (0.34-6.61)	1.07 (0.21-5.46)
Both physical and sexual	2.74 (1.32-5.70)***	2.27 (1.02-5.08)***

Note: ‡ Adjusted for age, age at marriage and level of education.   Level of significance *** p<0.001.

Table 4 shows the adjusted and unadjusted odds ratios with 95% confidence interval of different types of violence on unwanted pregnancy. Evidently, as compared to never-abused women, the women who were ever abused physically only and both physically and sexually were significantly at higher risk of unwanted pregnancy. However, the difference of likelihood of unwanted pregnancy was not statistically significant among women who were never abused in any form and who had been abused sexually only. The adjusted risk of unwanted pregnancy was 2.35 (95% CI=1.28-4.32) times and 2.27 (95% CI=1.02-5.08) times among women who were abused physically only and both physically and sexually.

Differentials of pregnancy termination

Table 5 shows the results of univariate and multivariate logistic regression analyses of the pregnancy termination by demographic,

socioeconomic and violence related variables. Of the variables considered for analyses: religion, working status, wealth index, administrative region and contraceptive use did not show to have significant association with pregnancy termination. Age and violence against wife showed to have stronger association with pregnancy termination. Besides, age at first marriage, age at first birth, number of children ever born, women's education and husband-wife discussion on FP showed to have weak association, whereas number of living children had moderate level of association with induced abortion.

The multivariate logistic regression analyses demonstrate that after controlling over various socioeconomic, demographic and violence related characteristics; the variables: children ever born, number of living children, women's education and husband-wife discussion on FP had no more

Table 5: Logistic regression analyses showing the risk of pregnancy termination among urban women by socio-demographic background characteristics, BDHS 2007

Background characteristics	% terminated pregnancy	Odds ratios with 95% confidence interval	
		Bivariate LR	Multivariate LR
Current age			
15-24	8.6	1.00	1.00
25-34	16.7	2.12 (1.30-3.48)***	1.85 (1.07-3.21)***
35-49	21.2	2.84 (1.78-4.52)***	2.68 (1.59-4.49)***
Age at first marriage			
10-14	17.7	1.35 (0.87-2.09)†	2.06 (1.07-3.05)*
15-17	14.3	0.93 (0.44-1.40)	1.11 (0.67-3.09)
18+	15.9	1.00	1.00
Age at first birth			
<18	14.9	1.00	1.00
18-20	16.8	1.15 (0.76-1.74)	1.19 (0.78-1.80)
21+	20.1	1.43 (0.93-2.19)†	1.44 (0.92-2.25)†
Children ever born			
<3	13.9	1.00	ns
3+	18.8	1.44 (1.03-2.01)†	ns
Living parity			
<3	13.8	1.00	ns
3+	19.6	1.52 (1.09-2.13)**	ns
Education level			
No education	17.4	1.31 (0.73-2.34)	ns
Primary	18.9	1.45 (0.83-2.55)†	ns
Secondary	13.5	0.96 (0.55-1.73)	ns
Higher	13.8	1.00	ns
Discussed with husband on FP			
No	18.3	1.32 (0.94-1.87)†	ns
Yes	14.5	1.00	ns
Husband ever abused			
No	13.6	1.00	1.00
Yes	18.1	1.40 (1.00-1.96)*	1.42 (0.99-2.04)*

Note: Level of significance *** $p<0.001$; ** $p<0.01$; * $p<0.05$; † $p<0.10$; ns not significant.

significant effect on pregnancy termination, while age, age at first marriage, age at first birth and husband's violence against wife appeared to be statistically significantly related with pregnancy termination.

As shown in Table 5, the risk of pregnancy termination significantly ($p<0.05$) increased by 42.0% (OR=1.42, 95% CI=0.99-2.04) among women who were ever abused by their husbands than those who were never abused. The multivariate analysis showed significant positive relationship between age and induced abortion. For instance, the likelihood of pregnancy termination among the women aged 25-34 and 35-49 years as compared to women aged 15-24 years, were significantly ($p<0.001$) 1.85 (95% CI=1.07-3.21) times and 2.68 (95% CI=1.59-4.49) times respectively. Age at first marriage was inversely associated with pregnancy termination. The women who got marriage at age 10-14 and 15-17 as compared to women who got marriage at age 18 or above were 2.06 (95% CI=1.07-3.05) times and 1.11 (95% CI=0.67-3.09) times respectively tended to go for induced abortion. There was no significant difference in the likelihood of induced abortion who were married at age 15-17 and 18 or above. Age at first birth of women revealed to have no significant difference in the likelihood of pregnancy termination between women who had given childbirth at age below 18 and 18-20. However, the risk of pregnancy termination as compared to women whose age at first childbirth was less than 18, the women whose age at first childbirth was 20 or above were 1.44 (95% CI=0.92-2.25) times.

Table 6 shows univariate and multivariate logistic regression analyses of pregnancy termination for different types of DV. As shown in the table, after controlling over other confounding factors, the difference of likelihood of pregnancy termination between never-abused women and who were only sexually abused were not statistically significant,

although other types of violence showed significant relationship with DV. For instance, as compared to women who were never abused in any form, the women who were abused physically only and were abused both physically and sexually were at 1.41 (95% CI=0.95-2.10) times and 1.81 (95% CI=1.07-3.07) times as likely as to go for pregnancy termination.

Discussion

In this study we examined the prevalence of DV and its relationship with unwanted pregnancy and pregnancy termination using a nationally representative weighted sample of 1,013 married urban women based on their self reported information. Overall, 47.5% of the women ever had experienced DV inflicted by husbands, reporting with 34.2% were abused physically only, 2.7% sexually only and both physical and sexual 10.6%. In the last twelve months preceding the survey date, the overall prevalence of DV was 22.6%. The most prevalent form of physical violence was slapping, followed by pushing or throwing something, punching with fist and twisting arm or pulling hair. The prevalence and patterns of different forms of DV are consistent with earlier studies conducted on Bangladeshi women (Silverman et al., 2007, Bates et al., 2004), and confirm that IPV is alarmingly commonplace in this impoverished South Asian nation like Bangladesh (27).

From the findings of the study it is evident that VAW is related to unwanted pregnancy and induced abortion, a relationship which persisted even after controlling for age, age at marriage, age at first birth, women's education and fertility related variables such as number of children ever born and number of living children. Women in abusive relationships may have unplanned pregnancy and may consider pregnancy termination (28,29). DV violence increases the likelihood of unintended pregnancy and pregnancy termination by affecting pre-conception

Table 6: Logistic regression analyses showing the risk of pregnancy termination among urban women by types of domestic violence, BDHS 2007

Background characteristics	Odds ratios with 95% confidence interval	
	Bivariate LR	**Multivariate LR‡**
Type of violence		
No violence	Reference	Reference
Only physical	1.35 (0.94-1.96)†	1.41 (0.95-2.10)*
Only sexual	0.49 (0.11-2.11)	0.53 (0.12-2.25)
Both physical and sexual	1.82 (1.09-3.04)***	1.81 (1.07-3.04)**

Note: ‡ Adjusted for age, age at marriage and level of education.   Level of significance *** p<0.001; ** p<0.01; * p<0.05; † p<0.10.

and post-conception desire for pregnancy, pregnancy preparations and adaptations to pregnancy and may lead to circumstances in which pregnancy is seen as unintended and so increase likelihood that a given pregnancy is terminated (30). However, while physical and both physical and sexual violence showed to have significant relationship with unwanted pregnancy and pregnancy termination in our study, unexpectedly only sexual violence appeared to have no significant relationship with those, suggests the need of further rigorous investigation focusing on this particular issue.

The findings of this study are quite in a good agreement with earlier studies dealt with the linkage between domestic violence, unplanned pregnancy and induced abortion (10, 27, 31-34). Studies have established the relationship that, having had an unwanted pregnancy was significantly associated with living in a highly patriarchal community and living in a community with a high rate of IPV (10). The persistent gender inequality in patriarchal society and the lack of autonomy and women's subordinate position are closely associated with DV and lack of fertility control.

Women's experiences of violence, especially IPV, have been convincingly established association with depression (35,36). Previous studies have increased our knowledge that IPV has a strong association with pregnancy termination (37). Additionally, when women report abuse by partners, they experience greater likelihood of more frequent pregnancies, miscarriages and adverse pregnancy outcomes and this troubled reproductive history should be considered in relation to maternal depression. Women's experience of violence – likely to continue over an extended period of time – along with other adverse reproductive events and circumstances increases their risk of depression, rather than their experience of terminating a pregnancy (36,38).

The bivariate analysis showed that the variables such as age, number of children ever born, number of living children, age at first marriage and women's education are important factors in explaining unwanted pregnancy and pregnancy termination. The multivariate analysis supported some of the findings of the bivariate analysis. In the multivariate analysis, women's age, age at first marriage and age at first birth had significant net effect on unwanted pregnancy. Except for the variables number of children ever born and number of living children, other variables included in the analyses had

significant effect on pregnancy termination net of other confounding factors.

Through the findings of this study we learned that the higher was the age of women, the higher was the probability of having an unwanted pregnancy and had higher risk of pregnancy termination. Besides, the more was the number of living children, the higher was the risk of unwanted pregnancy. These findings are consistent with that conducted elsewhere (39). The proportion of births reported to be unwanted increased with age. This is because, older women had larger family size and the younger women might not have achieved family size as their desired. Two-child is now a norm of ideal family size in Bangladesh. Thus, it may be attributed to the fact that, the older women having with larger family size than that of their desired were more likely to justify their most recent pregnancy as unwanted.

Consistent with earlier studies conducted in Bangladesh (40), Japan (41) and Nepal (39), we learned from our findings regarding the significant negative relationship between age at first marriage and unwanted pregnancy in Urban Bangladesh. One of the reasons could be that early marriage leads women to early initiation of sexual intercourse, and broadens the marital duration, resulting higher likelihood of frequent and unwanted pregnancy. Another reason could be that, the women who married earlier may have limited access to services or may have experienced particular difficulties in contraceptive use (39). Women's age at first childbirth was positively associated with pregnancy termination. One of the possible reasons may be that, women married at later ages are likely to achieve family size within shorter duration. In doing so women are less likely as well as more reluctant to use contraceptive methods, resulting in repeated pregnancies. These women go for pregnancy termination to make a significant space between the two pregnancies.

The present findings should be considered in the light of several limitations. Data regarding violence, unwanted pregnancy and pregnancy termination were gathered from women's self reported information. Since induced abortion, with few exceptions like the saving of mother's life, is illegal, hence Bangladeshi women generally hesitate to disclose the pregnancy termination. Besides, to escape from social criticism and for prestige issue many women are likely to tolerate husband's violence and do not unveil it. Thus, there may have underreporting of DV

perpetrated by husband, unwanted pregnancy and induced abortion. As a result, we were unable to assess the impact of IPV on unwanted pregnancy among those who had been pregnant but had induced abortion. Most notably, the present study was only able to assess these outcomes individually within the context of the most recent pregnancy termination among those experiencing such events in the past five years, eliminating the ability to detect relations of IPV to either experiences of these outcomes occurring previous to this recent event within the past five years, or to such outcomes that may have occurred earlier than five years ago (27). Despite these limitations, the study has strength that it dealt with a nationally representative data set. The findings of this study may help in driving up our understanding on DV, unwanted pregnancy and pregnancy termination of Bangladeshi urban women.

In conclusion, violence against women is a common phenomenon in urban Bangladesh. No single factor accounted for the high rates of unwanted pregnancy and induced abortion; many factors contributed in these regards. Among them, women's age, age at first marriage and larger family size are stronger predictors of unwanted pregnancy and pregnancy termination. Domestic violence is strongly related to unwanted pregnancy and moderately related to pregnancy termination. This study has established the relation that, abused urban married women of Bangladesh are less able to control their reproduction, as represented by higher rate of unwanted pregnancy, and is likely to go for pregnancy termination. Investigation of mechanisms responsible for these associations will be critical to developing interventions to improve maternal, fetal, and neonatal health, and should be considered a public health research priority (27). Thus, it can be concluded that programs should aim to eliminate gender discrepancies as well as VAW. Finally, national and international efforts can more effectively address women's risk of violence and unplanned pregnancy and pregnancy termination and the resultant threats to women's health, safety and wellbeing.

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