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Prevalence and correlates of physical spousal violence against women in slum and non-slum areas of urban Bangladesh

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Abstract

This study explored the prevalence and correlates of past-year physical violence against women in slum and non-slum areas of urban Bangladesh. We used multivariate logistic regression to analyze data from the 2006 Urban Health Survey, a population-based survey of 9122 currently married women aged 15–49 selected using a multi-stage cluster sampling design. The prevalence of reported past-year physical spousal violence was 31%. Prevalence of past-year physical spousal violence was higher in slums (35%) than in non-slums (20%). Slapping/arm-twisting and pushing/shaking/throwing something at the women were the most commonly reported acts of physical abuse. Multivariate analysis showed that the risk of physical spousal abuse was lower among older women, women with post-primary education, and those belonging to rich households and women whose husband considered their opinion in decision-making. Women were at higher risk of abuse if they had many children, believed that married woman should work if the husband is not making enough money, and approved wife beating norms. This study serves to confirm the commonness of physical spousal abuse in urban Bangladesh demonstrating the seriousness of this multifaceted phenomenon as a social and public health issue. The present findings suggest the need for comprehensive prevention and intervention strategies that capitalize on the interplay of individual and sociocultural factors that cause physical spousal violence. Our study adds to a growing literature documenting domestic violence against women in urban areas of developing south Asian nations.

Introduction

Intimate partner violence (IPV) is a major public health problem engendering serious physical health effects for women, including deaths and disabilities due to injuries (Plichta & Falik, 2001; Ellsberg et al., 2008). Additionally, IPV acts as a common cause of mental health problems (Garcia-Moreno, Jansen, Ellsberg, Heise, & Watts, 2005; Krug, Mercy, Dahlberg, & Zwi, 2002; Naved & Akhtar, 2008), and has adverse sexual and reproductive health outcomes (Campbell et al., 2002; Dunkle et al., 2004). During the recent decades, efforts to identify correlates and etiology of IPV have increased significantly in Bangladesh, dominated by studies conducted in rural areas (Bates, Schuler, Islam, & Islam, 2004;

Bhuiya, Sharmin, & Hanifi, 2003; Decker et al., 2008; Koenig, Ahmed, Hossain, & Mozumder, 2003; Schuler, Hashemi, Riley, & Akhter, 1996; Silverman, Gupta, Decker, Kapur, & Raj, 2007). These studies suggest that IPV is widespread within the Bangladesh population, and that Bangladeshi women are threatened with multiple forms of IPV including physical, sexual and emotional abuse (Naved, 2003; Wahed & Bhuiya, 2007). Population-based surveys place lifetime rate of physical IPV at between 42% and 76% and annual rate at about 16% to 67% (Bates et al., 2004; Decker et al., 2008; Garcia-Moreno et al., 2005; Naved, Azim, Bhuiya, & Persson, 2006; Schuler et al., 1996).

Existing research on determinants of IPV in Bangladesh suggests that specific types of risk factors – demographic, socioeconomic, relational and cultural variables – influence the prevalence of domestic violence against women (Johnston & Naved, 2008; Wahed & Bhuiya, 2007). This cross-sectional research indicates the importance of women's relative younger age within marriage as a factor associated with IPV, with risk of experiencing abuse declining with age (Ahmed, van Ginneken, Razzaque, & Alam, 2004; Naved & Persson 2005). The leading explanatory hypothesis is the lack of experience among younger women to avoid situations that trigger abuse or lack of kin support and integration among younger couples within the husband's extended family compared to older women (Counts, Brown, & Campbell, 1999). In addition, some studies have shown education as a consistent marker for IPV (Hadi, 2000). According to Naved and Persson (2005), and Koenig et al. (2003), women with some level of primary education are less likely to be abused than those without education. The limited existing literature does not report a consistent story on the association between income-generating activities and IPV (Johnston & Naved, 2008). Some studies have shown a negative relationship between IPV and membership in micro-credit groups, whereas others showed positive relationship, and still others showed no significant relationship (Chowdhury & Bhuiya, 2001; Koenig et al., 2003; Schuler et al., 1996). In terms of income-generating activities, Bates et al. (2004) and Naved and Persson (2005) found that rural women who earn independent incomes experience more IPV than women who do not earn independent incomes.

Previous research indicates that IPV is associated with poverty (Amin, Khuda, Islam, & Levin, 1997) and having many children (Aklimunnessa, Khan, Kabir, & Mori, 2007). The frustrations and stresses imposed by poverty or financial problems upon family life can lead to abuse (MacMillan & Gartner, 1999); while having many children can limit space, demand more time and attention and also increase stress levels, leading to greater IPV (Panda & Agarwal, 2005).

International studies with considerable geographic and cultural variation show that women living within societies dominated by patriarchal institutions, unequal power relations between the genders and male's control of resources have increased vulnerability to IPV (Dobash & Dobash 1979; Schuler et al., 1998). Research in Bangladesh has shown that women are more likely to be abused in relationships where men make more of the key decisions (Ahmed, 2005; Islam et al., 2004). However, some studies in Bangladesh have shown that a woman's increased status as evinced by greater autonomy and control over resources is more protective against IPV (Schuler et al., 1996). There are, however, inconsistencies on the finding on the relationship between women's autonomy and IPV. Koening et al. (2003) have found that husband's lower decision-making power is positively related to greater IPV. Some research suggests that normative tolerance of wife abuse rooted in patriarchal ideology is strongly associated with IPV (Schuler, Bates, Maseljo, & Islam, 2006).

As predominately rural-focused studies have documented the prevalence and associated factors for partner abuse in Bangladesh, very few studies have examined the nature of IPV

against women in urban areas of this country (Naved et al., 2006; Naved & Persson, 2005; Salam, Alim, & Noguchi 2006). In addition, even rarer are studies that examine differences in IPV in slum and non-slum areas within Bangladesh cities. There is also a scarcity of such studies in many developing countries (Jeyaseelan et al., 2007). Our study aims to fill this gap. As rapid urbanization is occurring in South Asia and elsewhere, urban areas have become the new frontier for public health concerns (Freudenberg et al., 2005). Campbell and Campbell (2007) argue that current and future patterns of urban growth, combined with advances in the treatment of traditional scourges of communicable diseases, is causing a shift in the burden of diseases towards what is classified as category 2 (non-communicable) and category 3 (injury/violence) conditions. The shift in the burden of public health concerns is argued to have a clear link to features of city growth – poverty and slum formation. Like all health-related behaviors, domestic violence should be understood in relation to the broad ecological and socioeconomic context in which it occurs (Heise, 1998). A better understanding on the nature of IPV in urban areas is needed to identify appropriate targets for prevention and interventions programs aimed at addressing the problem of domestic violence and promoting behavior change where necessary.

In this study, we investigate the nature of past-year physical spousal violence using the ecological model that outlines IPV as a multifaceted phenomenon grounded in an interplay of a multitude of factors operating at different levels of the victim's social ecology (Heise, 1998). These factors are best visualized as concentric circles. The innermost circle contains characteristics of the individual; the second circle refers to the relational context in which abuse takes place. The outermost circle refers to the dominant cultural views and attitudes within the society. Our main assumption is that multiple factors rather than any one individual factor are most likely to be responsible for IPV in Bangladesh. Specifically guided by previous findings (e.g., Kishor & Johnson, 2004; Koenig et al., 2003; Naved & Persson, 2005), we hypothesized that slum women would more likely experience physical violence than non-slum women. Adult women rather than teenage women, those with post-primary education and women employed for wages would less likely experience physical violence. Additionally, the risk of physical abuse would be greater for women with higher parity, and those who believed that married women should work outside the home if the husband is not making enough money. We also expected that women who reported that it was justified for a husband to beat his wife under various scenarios would more likely be physically abused by their husbands. Furthermore, we hypothesized that those women whose husbands' considered their opinion in decision-making would less likely experience physical abuse. In sum, our study describes the prevalence and identifies associated factors of past-year physical spousal violence among reproductive aged women in slum and non-slum areas of urban Bangladesh using population-based data.

Method

Study setting and study design

This study used data from the 2006 Urban Health Survey (UHS), a population-based cross-sectional household survey covering a target population of Bangladeshi women aged 10–59 residing in district municipalities and six city corporations: Dhaka, Chittagong, Kulna, Rajshahi, Barisal, and Sylhet. The study protocol, questionnaires and interview guide were approved by the Institutional Review Boards of the University of North Carolina at Chapel Hill and the Bangladesh Medical Research Council, Dhaka, Bangladesh.

The UHS survey used a multistage cluster sample design with each selected city stratified into slum and non-slum areas for which these urban communities served as the primary sampling unit (PSU). District municipalities were included in the UHS sampling frame as PSUs (without reference to slum/non-slum partition) based on the sample frame from the

2004 Bangladesh Demographic and Health Survey (NIPORT, Mitra Associates & ORC Macro 2005). Using the probability proportional to size (PPS) selection method (Levy & Lemeshow, 1965), 510 PSUs were selected (254 from slums, 192 from non-slums and 64 from district municipalities). In PPS sampling, a PSU's selection probability is proportional to its size measure. PPS sampling is often used in cluster sampling, whereby in our study we selected clusters (i.e., groups of sampling units: slum, non-slums and district municipalities) of varying sizes in the first stage of selection. A list of households in each PSU was created to form the sampling frame for systematic selection of households. Within each cluster, 25 households were randomly selected. Demographic and socioeconomic information of each selected household and its members were recorded on a household form. Of 15277 eligible women, 14191 (93% response rate) completed the survey.

After obtaining informed verbal consent, female research assistants administered face-to-face interviews to all selected women. The interviews were conducted in privacy and in a non-judgmental manner. For the survey, all questions were translated from English into Bengali, the national language of Bangladesh. Survey items included assessments of demographic and socioeconomic status; birth history; maternal health; current physical health; mental health using the Self-Reported Questionnaire; HIV/AIDS; and smoking, alcohol and drug use. The survey also included items about husband's perpetration of physical violence against his wife which is the focus of our study. The direct and behaviorally-explicit questions on physical violence and their time period ("ever" or "past year") were derived from the Revised Conflict Tactics Scale (CTS2) (Straus, Hamby, Boney-McCoy, & Sugarman, 1996). The domestic violence questions were adapted for local relevance in consultation with experts in Bangladesh. The study followed the WHO guidelines on ethics and safety in studies on violence against women (World Health Organization, 2001). Assessments on gender role beliefs were included in the domestic violence module as was household decision-making and normative acceptance of violence against women.

Study Participants

For the current study, we applied the following inclusion criteria: currently married women of reproductive age (aged 15–49) for whom both household decision-making and physical violence data were collected. Of 14191 interviewed women, 1529 (11%) were dropped from the analysis because they were never married, and importantly they were not asked questions on domestic violence and household decision-making. An additional, 1110 (8%) divorced, widowed or separated women and 1074 (8%) women ages ≤ 14 and ≥ 50 years were dropped from the analysis. As the purpose of our analysis is to compare slum and non-slum violence, we also excluded 1356 (10%) women from district municipalities because the sample could not be partitioned into the residential categories of interest (slum vs. non-slum). The final analytical sample was 9122 currently married women (5128 from slums and 3994 from non-slums), thus retaining 64% of the full survey sample.

Measures

Dependent variable

Our outcome variable is occurrence of physical violence against a woman by her husband in the past year. Five "yes-no" violence tactic items assessed physical spousal violence: (a) push, shake or throw something that could hurt you, (b) slap or twist your arms, (c) punch with a fist or with something that could hurt you, (d) kick or drag you, and (e) strangulate, burn or attempt to kill you. These items were combined into a dichotomous variable: no physical violence (score = 0) and any physical violence (score ≥ 1). We restrict our analysis to cases of physical violence that occurred in the past year (rather than "ever") so as to

establish a reasonable temporal ordering between physical spousal violence and the selected independent variables.

Independent variables

Independent variables for this analysis fall into four domains: sociodemographic characteristics, gender role beliefs, attitudes towards partner violence and relational factors. Sociodemographic characteristics included: place of residence, age, education, income earning activity, participation in micro-credit programs, religion, household wealth, age at first marriage, and number of children. Household wealth was assessed using a combination of measures of household asset and amenities ownership, and housing tenure, an approach commonly used to assess wealth in this setting (Rutstein & Johnson, 2004).

Respondent's view on gender role beliefs was derived from two questions which assessed whether it was acceptable for married women to work outside the home. First, women were asked; "if for some reason the husband cannot make enough money for the family, do you believe that it is acceptable for married women to work outside the home to earn an income" and the response was yes (coded=1) or no (coded=0). Second, women were also asked; "if the husband is making money, do you believe that it is acceptable for married women to work outside the home to earn an income." The response was yes (coded=1) or no (coded=0).

Our study adopted a composite measure on acceptance of partner violence under various scenarios. A binary variable, the wife beating norm, was developed by inquiring of the woman whether or not it is justified for a husband to beat his wife if she: "neglects the children," "argues with her husband," "fails to provide food on time," "visits her family without her husband's permission," and "visits a friend without her husband's permission." The response was no = 0 and yes = 1. Respondents answering "no" to all of the attitudes items were coded 0, and those who responded in the affirmation on one or several of the attitudes items were coded 1.

Finally, the study included the following relational factors: husband considers wife's opinion in decision-making and household decision-making power. The variable, husband considers wife's opinion in decision-making assessed whether women were consulted by their husbands when making decisions on: "large household purchases," "minor daily household expenses," and "when he wants to visit family or friends". The "yes" (code=1) or "no" (code=0) responses were summed (Cronbach's $\alpha = 0.85$), and then dichotomized: no consideration (score=0) and some consideration (score≥1). A categorical variable of household decision-making power was constructed based on inquiring of the women who in their opinion bore the responsibility of making final decisions on: "the women's own health care," "children's health," "large household purchases," "everyday household purchases," "visits to family, friends or relatives," and "what food to be cooked each day." The responses to these items were coded into one of three relationship power types: egalitarian, husband-dominated and wife-dominated.

Statistical Analysis

Statistical analyses were performed using STATA Release 10 (Stata Corporation, 2007). Basic descriptive statistics (means) were computed to describe the characteristics of the study sample, as well as the prevalence of past-year physical violence within marriage and for the specific acts of abuse, together with 95% confidence limits. Next, we used chi-square analyses to assess bivariate association between past-year physical spousal violence and the selected background characteristics of women. Given that the dependent variable is dichotomous, multivariate logistic regression was used to examine factors associated with

past-year physical spousal violence. We also tested whether selected explanatory variables had moderating effects on slum residence by creating interaction terms between these variables. None of the interaction terms achieved significance; hence we excluded them in the analysis. STATA's survey commands were used to account for the cluster sampling design. In addition, in order to present results that are representative to the survey population in slums and non-slums, we apply weights to our statistical analyses. Following the logit model, we defined P_i, the probability that the *i*th respondent was abused by her husband in the past year:

$$P_i=1/(1+e^{-Zi})$$

where $Z_i = b_i + b_2X_{2i}+b_3X_{3i}+ \dots b_{24}X_{24i}$ and where the subscript *i* refer to the *i*th respondent. The Xs represents the sociodemographic, gender role beliefs, attitudes towards partner violence and relational characteristics of the respondent that determine the P_i. To enhance interpretability, coefficients from the logit regression were transformed to marginal effects using 5000 bootstrap samples (Efron & Tibshirani, 1993). The marginal effects of the Xs, evaluated at their sample means, were shown to be represented by $\partial P_i/\partial X_i = b_J/(1-P_i)P_i$. The marginal effects approximate an increased or decreased probability that a woman was abused by her husband in the past year, given a one unit increase in the covariate. For dummy variables (i.e. variables recoded as 0 or 1) the marginal effects represent a predicted increase or decrease for a discrete change from 0 to 1.

Results

Sample Characteristics

Table 1 presents summary statistics of selected background characteristics of married women by stratum. Over half (56%) of slum women were age 29 years or less, in contrast to 48% of non-slum women. Higher rates of non-literacy were found among slum women (47%), while higher educational attainment was more common among non-slum women (30%). Approximately 29% of slum women were employed for wages, in contrast to 17% from the non-slums. As expected, a higher proportion of slum women (32%) reported participating in credit programs, in contrast to 27% from the non-slums. The sample was predominantly Muslim. Sixty-five percent of slum women belonged to poor households, in contrast to one-in-five of non-slum women (23%), indicating that slum women live in greater poverty. Although the legal minimum age at marriage for women in Bangladesh is 18 years, a majority of women got married before they reached 18 years: 79% of slum women got married before age 18, in contrast to 60% of non-slum women.

About one-third of slum women (32%) reported that it was tolerable for wives to work outside the home if the husband is making enough money, in contrast to 35% of non-slum women. About half of slum women (50%) believed that husbands should beat their wives under various circumstances, in contrast to 36% of non-slum women. A majority of women in both urban stratums reported that their husbands considered their opinions when making decisions.

Past-year prevalence of physical spousal violence

The results in Table 2 reveal that in the past year, about a third of women surveyed (31%) had been physically assaulted by their husbands. We also found significant variations in prevalence of past-year physical spousal violence by stratum, both in terms of overall prevalence and specific acts of violence [$p<0.001$]. Past-year rates of physical spousal violence were higher among slum women (34.8%) than among non-slum women (19.8%). Overall, some 28.3% of the women reported experiencing slapping or arm-twisting, followed by 18.2% experiencing pushing, shaking or throwing something and the least

commonly cited acts of physical violence being strangulation, burning or attempting to kill (3.5%).

Table 2 also shows the marked disparities of magnitude of specific acts of physical violence experienced by women living in slum and non-slum areas. Overall, the pattern of past-year physical violence was similar across the residential categories. However, slum women reported higher exposure of past-year physical spousal violence across all five acts of abuse, in contrast to non-slum women (also see Figure 1). The most commonly reported act of abuse was slapping or arm-twisting (10% in non-slums vs. 21% in slums). Pushing, shaking or throwing something at the women was the second most common act of abuse. The least commonly cited act of abuse was strangulation, burning or attempting to kill; prevalence of 2% in non-slums vs. 4% in slums.

Bivariate analysis of factors associated with past-year physical spousal violence

Chi-square analyses of bivariate associations between past-year physical spousal violence and selected characteristics of women are displayed in Table 3 by stratum. Overall, this table suggest that similar factors operate in both slum and non-slum settings. For both urban stratums, physical violence was less common with increasing age of women and post-primary educational attainment ($p<.001$ for all). For non-slum women, physical violence was higher among those who participated in micro-credit programs ($p<0.05$). For slum-women, the proportion experiencing abuse was non-significantly higher for those participating in micro-credit programs than among those not participating in micro-credit programs. Women who worked for wages reported the highest rate of abuse ($p<0.005$), for non-slum area only. Physical violence was higher among Muslim women residing in slum areas ($p<0.001$), but not non-slum Muslim women. Physical violence was less common with increasing household wealth ($p<0.001$ for both urban strata). Similarly for both settings, physical violence was lower among women reporting age at first marriage as ≥18 years ($p<0.05$). For slum women, physical abuse somewhat declined with increasing parity ($p<0.001$) and those who indicated it is acceptable for married women to work if the husband is not making enough money reported higher physical abuse ($p<0.01$). For non-slum women, physical abuse was lowest among those reporting that it is acceptable for a wife to work if the husband is making enough money ($p<0.05$). For both urban strata, physical abuse was higher among women reporting that it is acceptable for husbands to beat their wives under various scenarios. Also, χ^2 test for husband's consideration of wife's opinion in decision-making were significant ($p<0.05$ for all). For slum women only, physical violence was significantly associated with household decision-making power ($p<0.05$).

Multivariate analysis of factors associated with past-year physical spousal violence

Table 4 presents the regression coefficients, marginal effects and robust standard errors. Marginal effects are calculated at the mean values for all other regressors from the logistic regression model predicting women's risk of experiencing physical spousal violence in the past year. In analyses stratified by place of residence (not shown) there were no consistent differences in the final models predicting past-year physical spousal violence, thus we analyzed the two residences together. In our analysis, marginal effects have been multiplied by 100 for easy of interpretation.

As regards sociodemographic characteristics, slum residence was not significantly associated with physical spousal violence, whereas age was negatively related to spousal violence. Specifically, women aged 30 years and above, in contrast to those aged 19 years or less, had a lower probability of being physically abused by their husbands (13.3%−22.2%). Not surprisingly, having some post-primary education was negatively associated with physical spousal violence after controlling for other factors; the likelihood of being

physically abused was 10.8% lower for women with some secondary education, as opposed to those with no education.

We also found evidence that household wealth was a negative predictor of physical spousal violence. More specifically, belonging to any of the wealth categories, as opposed to the poor category, significantly decreased the probability of being physically abused; the likelihood of being abused decreased by 9.3% for women in households with middle wealth and 15.6% for women in rich households. Number of children was a significant positive predictor of physical spousal violence; the likelihood of being physically abused increased by 7.2% for women having 1–2 children to about 10.5% for women having ≥ 3 children. The coefficients of income earning activity, participation in micro-credit programs, religion and age at first marriage were not statistically significant as predictors of past-year physical spousal violence.

With respect to gender role beliefs, only one factor within this domain emerged as a significant predictor of physical spousal violence. The belief that a married woman should work outside the home if the husband is not making enough money significantly increased the probability of being physically abused by 5.2%; whereas the belief that a married woman should work outside the home if the husband is making enough money did not predict physical abuse.

Concerning attitudes towards partner violence, our results indicate that wife beating norms were positively related to physical spousal violence all else equal; having some wife beating norms significantly increased the probability of being physically abused by a husband by 8.6%.

The results of the multivariate analyses also provided support for the link between selected relational factors and physical spousal violence. Specifically, husband's consideration of wife's opinion in decision-making was a negative predictor of physical spousal violence; the likelihood of being abused increased by 15.9%. Interestingly, the probability of being physically abused decreased by 8.2% for women whose husbands' dominated household decision-making, whereas wife-dominance in household decision-making had a marginal effect on physical violence.

Discussion

To our knowledge, this is the first large population-based study to provide valuable data on the prevalence and associated factors of past-year physical spousal violence in slum and non-slum areas of urban Bangladesh. Furthermore, this study allows us to examine simultaneously the multiple risk factors that have been linked to IPV against women in Bangladesh and elsewhere. Our study reported an overall past-year rate of physical spousal violence of in this urban sample (31%). Previous studies which have explored the prevalence of physical spousal violence in Bangladesh, found rates ranging from 19% (Naved, 2005) to as high as 35–38% (Bates et al., 2004; Schuler et al., 1998). Our prevalence rate is within the upper range of estimates documented in these previous reports. The past-year rate of physical spousal violence (31%) in our sample was higher than the past-year rate of physical spousal violence found in India (22%; Chaudhary, Girdhar & Soni, 2009), but is consistent with the findings in Turkey (34%; Tokuç, Ekuklu, & Avcioglu, 2010). We also found that past-year physical spousal abuse varied by stratum: abuse was higher among the poorest strata, namely the slums (34.8%), with lower rates in non-slums (19.8%). The pattern of abuse was the same in both slum and non-slum areas, with slapping or arm-twisting more common than strangulation, burning or attempting to kill which may be related to impulsiveness in families or due to cultural attitudes towards killing (Haj-

Yahia, 2003; Jewkes et al., 2002). Our results show that physical spousal abuse is common event in slums and non-slums of urban Bangladesh. Given the potentially immediate and long-term deleterious consequences of physical abuse, it is realistic to state that domestic violence is a serious social and public health issue for women in urban Bangladesh.

Cross- and intra-national comparison of domestic violence is complicated due to differences in sampling methods, measures of violence and willingness to disclose abuse in interview settings (Krug et al., 2002). Nevertheless, the prevalence of past-year physical spousal abuse found in our study is greater than those reported in six cities included in the Garcia-Moreno et al. (2005) multi-country study on domestic violence against women: 3.2% in Serbia and Montenegro, 7.9% in Thailand, 8.3% in Brazil, 14.8% in Tanzania and 16.9% in Peru. The prevalence reported in our study, particularly for slums, is somewhat similar to rates found in other surveys in Tirana, Albania and Cuernavaca Morelos, Mexico, giving rates of 37% and 35.8%, respectively (Burazeri et al., 2005; Rivera-Rivera et al., 2004). Our prevalence for non-slums (20%) is similar to that reported in previous Bangladesh studies (Naved et al., 2006).

The results of the current study confirmed our hypotheses that many sociodemographic characteristics affect the likelihood of women's risk of being physical abused even when other factors were statistically controlled. Whereas slum residence showed no significant effect on past-year physical spousal violence, our study identified higher age as an important protective factor against physical spousal violence. These results are consistent with studies in Bangladesh (Ahmed, 2005) and Iran (Ghazizadeh, 2003). One possible explanation of our finding is that women tend to accrue social status with rising age. As a consequence they are subjected to less abuse within marriage. Additionally, having some post-primary education was also found to be a protective factor against spousal violence. Results were consistent with previous associational studies of the role of education on IPV (Ahmed, 2005; Vung, Ostergren, & Krantz, 2008). Such results highlight the critical role women's education play in improving their status within their households or improve spousal communication skills, and thus reducing their vulnerability to abuse. Yet, the protective effect of education can be slowed by the cultural context of rigid gender norms deeply entrenched in the society (Baden, Green, Goetz, & Guhathakurta, 1994). Nonetheless, investing in girl-child education and female literacy programs still remains a critical pathway to reducing abuse and improving women's status (Jewkes et al., 2002).

Our findings suggest that household wealth has a protective effect against physical spousal violence. These results corroborate studies from a wide range of setting such as Ukraine, India and Cambodia (Dude, 2007; Kishor & Johnson, 2004) including Bangladesh (Bates et al., 2004; Koenig et al., 2003) stating the association between household wealth and IPV. Thus, policies and interventions aimed at reducing poverty may contribute to decreasing the risk of physical violence among women in urban Bangladesh, particularly for those living in slum areas. All measures of income-generating activities were not associated with spousal abuse; echoing earlier studies from Bangladesh (e.g., Ahmed, 2005), we found no association between physical spousal violence and income earning activity, and participation in micro-credit programs.

Consistent with our hypotheses, the findings shows that there is an association between physical spousal violence and conservative ideas regarding gender role beliefs (Sugarman, 1996). Notably, the belief that married women should work outside the home if the husband is not making enough money was associated with elevated risk of abuse. Thus, the findings seem to support the idea often repeated in the literature that men in patriarchal societies subscribe to a notion of masculinity involving distinctly hierarchical gender positions and definitions of male success in terms of controlling women (Dobash & Dobash, 1979). In this

context, it is not surprising to find that perceived challenges to male dominance are associated with wife abuse.

Similar to other studies documenting association between normative support of wife beating and IPV (Choi & Ting, 2008; Faramarzi et al., 2005), our study found that wife beating norms are a strong risk factor for physical spousal violence. One explanation is that entrenched patriarchal attitudes defining IPV as a normal practice transcend economic and social boundaries in urban Bangladesh. Given the pervasiveness of such attitudes, there is a need to transform gender relations in the whole society. This might be achieved through developing sociocultural interventions aimed at preventing IPV (Heise, 1998). Such approaches should aim to change the societal norms about IPV and provide the future generations with knowledge and skills needed for healthy relations so as to shift from a society where IPV is widely condoned.

In contrast to results reported in the Philippines (Hindin & Adair, 2002), our study shows that husband-dominated household decision-making was negatively related to physical spousal abuse. Similarly, our results suggest that when a man considers his wife's opinions in his decision-making, a woman's exposure to IPV is reduced. Thus, men may be less abusive if they have control over their or partner's decision making. In Bangladeshi culture, men are decision-makers and women having elevated decision-making power may lead men to face some kind of masculinity identity crisis that results in them adopting aggressive behaviors in-order to claim their domination (Goode, 1971).

This study has several limitations. First, this study examined associations between physical spousal violence and selected variables, thus causality cannot be inferred. Nevertheless, the associations provide insights about the role of the selected variables in women's vulnerability to violence. Second, the study relied on self-reported experiences of IPV obtained through face-to-face interview, which are subject to response biases due to sensitivities and stigma associated with IPV and social desirability (Arias & Beach, 1987). However, the instrument used for data collection assessed behaviorally-specific acts of physical abuse based on the revised Conflict Tactics Scale [CTS2] (Straus, Hamby, Boney-McCoy, & Sugarman, 1996). The CTS2 has been used in several studies in developing (e.g. India. Kenya, Malawi) and developed (e.g. North America) nations revealing consistent reliability and validity of the scale and its subscales (Hindin, Kishor, & Ansara, 2008; Straus, 2005). Third, the study excluded data that might allow greater precision in assessing the risk of being abused in adulthood and considered as potential important information in the context of designing interventions to reduce violence. For example, our survey excluded data on witnessing abuse between parents, experience of childhood abuse and husband's risk factors such as age, education, risky sexual behaviors, drug and alcohol use. This also limits the contextual understanding of abuse. Finally, by limiting the sample to married women the study precluded a complete profile of abused women in urban Bangladesh.

With these caveats, this study enhances our understanding of physical spousal violence, its magnitude, pattern and associated factors in urban Bangladesh. The study points to the importance of studying IPV against women using a multifactor framework such as the ecological model (Heise, 1998). Similar to research worldwide, our results reveal that the occurrence of IPV against Bangladeshi women is related to an interplay of risk factors at the individual, relational and societal level (DeMaris et al., 2003). Hence, a combination of strategies and several risk-reduction options with strong individual and community involvement over an extended period are necessary for the reduction of IPV against Bangladeshi women.

The study's sample was unique in that it included important urban stratums, namely slums and non-slums. The sample represented a significantly larger population of individuals in urban Bangladesh than have previous studies which have been based on small samples with limited geographic coverage (Naved, Azim, Bhuiya, & Persson, 2006). Our study serves to confirm the commonness of spousal abuse in Bangladesh – not limited to one stratum - therefore interventions oriented towards the whole society rather than risk groups are warranted. Furthermore, our study points out that spousal physical abuse is a complex phenomenon related with individual characteristics and deeply rooted in power relations related to gender norms and normative use of abuse in conflict situations. The high rates of spousal physical abuse underscores the need for policy makers to increase their recognition of spousal abuse as a critical target in public health concerns, and that comprehensive and culturally acceptable approaches to tackling domestic violence against women are needed.

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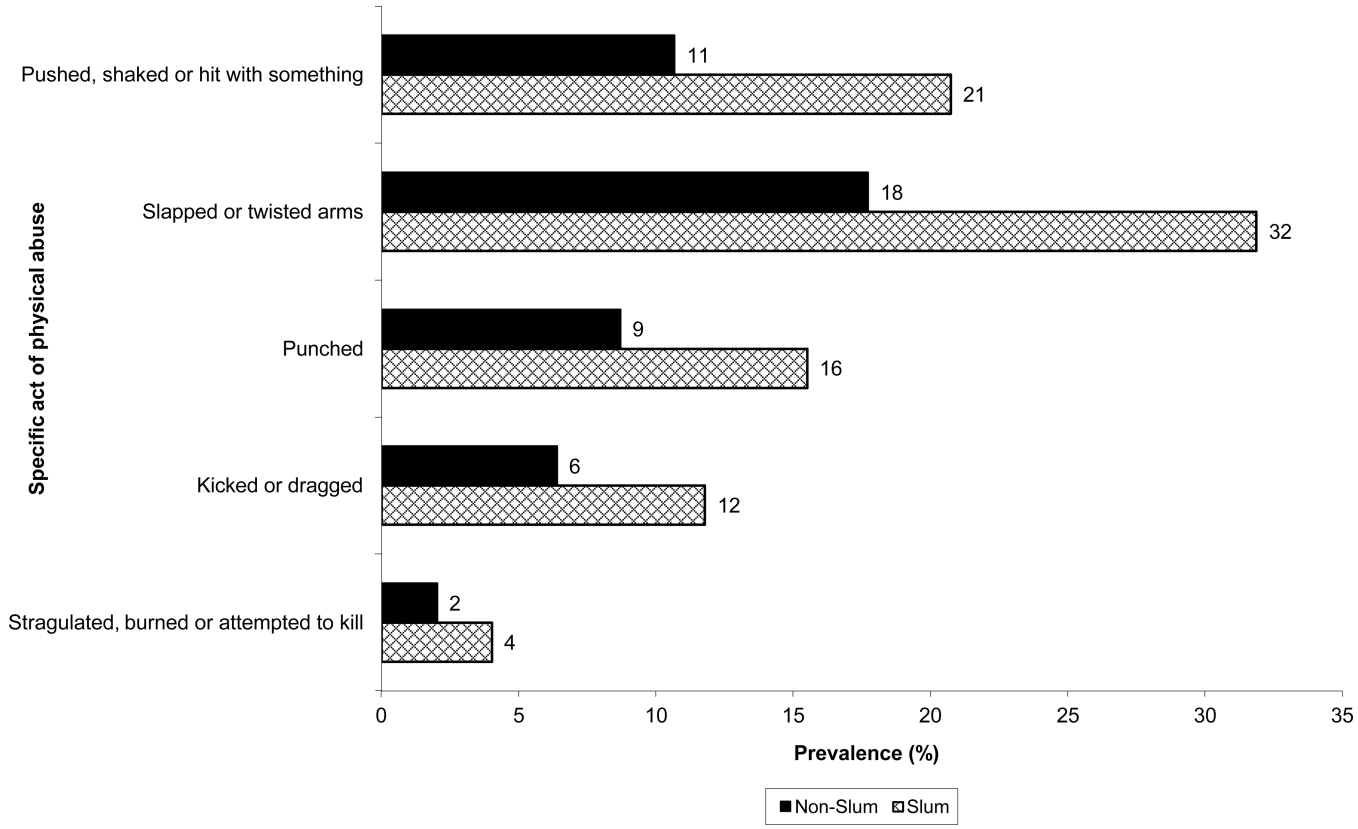

Figure 1.
Prevalence of past-year physical spousal violence by urban strata

Table 1

Sample profile of currently married Bangladeshi women aged 15–49 by urban stratum, UHS 2006

	Slum		Non-Slum	
Characteristic	**Mean**	**SE**	**Mean**	**SE**
Sociodemographic characteristics				
Age (years)				
15–19	.132	.011	.068	.005
20–29	.424	.015	.407	.012
30–39	300	.008	.350	.011
40–49	.144	.008	.175	.010
Education				
No education	.468	.013	.197	.011
Some Primary	.298	.008	.230	.012
Some Secondary	.234	.011	.573	.020
Income earning activity				
Not employed	.667	.016	.803	.014
Self-employed	.047	.005	.024	.004
Employed for wages	.286	.017	.173	.014
Participation in micro-credit programs				
Non-participation	.682	.015	.725	.021
Participation	.318	.015	.275	.021
Religion				
Non-Muslim	.044	.008	.127	.030
Muslim	.956	.008	.873	.030
Household wealth				
Poor	.646	.019	.231	.027
Middle	.201	.011	.173	.013
Rich	.152	.016	.516	.033
Age at first marriage				
≤ 17 years	.786	.008	.589	.018
≥ 18 years	.214	.008	.410	.018
Number of children				
None	.118	.006	.123	.010
1–2	.417	.010	.511	.017
3–4	.296	.010	.284	.016
≥ 5	.169	.007	.082	.009
Gender role beliefs				
Acceptable for wife to work, if husband is not making enough money				
No	.113	.007	.142	.013
Yes	.887	.007	.858	.013
Acceptable for wife to work, if husband is making enough money				
No	.678	.012	.650	.019

	Slum		Non-Slum	
Characteristic	**Mean**	**SE**	**Mean**	**SE**
Yes	.322	.012	.350	.019
Attitudes towards partner violence				
Wife beating norms				
No wife beating norm (score=0)	.505	.019	.639	.024
Some wife beating norms (score ≥ 1)	.495	.019	.361	.024
Relational factors				
Husband considers wife's opinion in decision making				
No opinion considered	.119	.007	.099	.013
Some opinion considered	.881	.007	.901	.013
Household decision-making power				
Egalitarian	.110	.008	.103	.013
Husband-dominated	.071	.007	.060	.009
Wife-dominated	.829	.009	.837	.012
Number of women	5128		3994	

Note: Sample mean and standard errors (SE) weighted by selection probability of sampling units.

Table 2

Prevalence of past-year physical spousal violence by urban stratum, UHS 2006

	Slum		Non-Slum		Total	
Prevalence of physical spousal violence	**%**	**95% CI**	**%**	**95% CI**	**%**	**95% CI**
Any past-year physical violence[a]	34.8	(32.56–37.11)	19.76	(16.94–22.91)	30.96	(29.11–32.87)
Specific acts of physical abuse						
Pushing, shaking or throwing something at her	20.73	(18.75–22.87)	10.67	(9.31–12.21)	18.16	(16.62–19.81)
Slapping or twisting arms	31.87	(29.18–34.96)	17.72	(15.14–20.64)	28.26	(26.17–30.45)
Punching,	15.50	(14.07–17.06)	8.70	(6.88–10.94)	13.77	(12.62–15.00)
Kicking or dragging	11.78	(10.30–13.42)	6.39	(5.08–8.00)	10.40	(9.30–11.62)
Strangulation, burning or attempting to kill	4.02	(3.41–4.75)	2.03	(1.37–3.00)	3.52	(3.01–4.10)

Note: Currently married women, ages 15–49, urban slum (N=5128), urban non-slum (N=3994) and total (N=9122).

CI = confidence interval

[a]=Any one or more specific acts of physical abuse are classified as physical spousal violence.

Table 3

Past-year physical spousal violence among married Bangladeshi women by selected background characteristics according to urban stratum, UHS 2006

Characteristic	% physical abuse and 95% confidence interval (CI)			
	Slum[a]		Non-Slum[b]	
Sociodemographic characteristics				
Age (years)		***		***
15–19	38.55	(31.80–45.78)	23.85	(16.78–32.73)
20–29	40.76	(37.75–43.84)	25.65	(21.09–30.80)
30–39	31.52	(28.75–34.44)	16.99	(13.50–21.17)
40–49	20.59	(17.14–24.53)	10.00	(6.70–14.68)
Education		***		***
No education	38.00	(35.03–41.05)	32.42	(25.27–40.49)
Some primary	38.71	(35.46–42.06)	26.03	(20.33–32.66)
Some secondary	23.45	(20.12–27.16)	12.90	(11.17–14.85)
Participation in micro-credit programs				*
Non-participation	34.21	(31.70–36.81)	18.70	(15.97–20.59)
Participation	36.05	(31.77–40.56)	23.94	(17.95–31.15)
Employment status				**
Not employed	33.64	(30.97–36.42)	18.12	(15.17–21.51)
Self-employed	35.34	(28.78–42.49)	19.19	(11.48–32.47)
Employed for wages	37.40	(33.86–41.07)	27.32	(21.74–33.70)
Religion		**		
Non-Muslim	20.53	(13.72–29.55)	18.51	(10.05–31.58)
Muslim	35.45	(33.18–37.78)	19.94	(17.65–22.45)
Household wealth		***		***
Poor	41.16	(38.82–43.55)	36.28	(31.26–41.62)
Middle	26.52	(22.56–30.88)	26.54	(20.57–33.50)
Rich	18.75	(15.49–22.52)	11.40	(9.55–13.55)
Age at first marriage		*		**
≤17 years	35.90	(33.57–38.29)	22.58	(18.58–27.15)
≥18 years	30.77	(26.70–35.16)	15.71	(12.85–19.06)
Number of children		***		
None	31.48	(26.69–36.70)	19.11	(13.92–25.66)
1–2	37.99	(34.42–41.69)	19.93	(16.06–24.45)
3–4	34.19	(30.35–38.25)	18.18	(14.97–21.90)
≥ 5	30.28	(26.64–34.19)	25.14	(15.24–38.55)
Gender role beliefs				
Acceptable for wife to work, if husband is not making enough money		**		
No	29.19	(24.99–33.78)	14.88	(10.43–20.79)
Yes	35.51	(33.19–37.90)	20.56	(17.38–24.16)
Acceptable for wife to work, if husband is making enough money				*

Characteristic	% physical abuse and 95% confidence interval (CI)			
	Slum[a]		Non-Slum[b]	
No	34.12	(31.70–36.62)	21.64	(17.86–25.96)
Yes	36.22	(33.17–39.40)	16.26	(13.43–19.56)
Attitudes towards partner violence				
Wife beating norms		***		***
No wife beating norms	29.65	(26.33–33.20)	15.75	(13.07–18.85)
Some wife beating norms	40.04	(37.41–42.73)	26.85	(22.42–31.79)
Relational factors				
Husband considers wife opinion in decision making		***		***
No opinion considered	47.12	(41.69–52.63)	40.57	(32.06–49.70)
Some opinion considered	33.13	(30.93–35.41)	17.47	(14.95–20.31)
Household decision-making power		*		
Egalitarian	39.80	(34.83–44.98)	19.34	(12.51–28.68)
Husband-dominated	29.75	(23.35–37.05)	26.02	(19.05–34.46)
Wife dominated	34.80	(32.55–37.11)	19.36	(16.47–22.61)
Number of women		5128		3994

* $p<0.05$;

** $p<0.01$;

*** $p<0.001$, the test statistics are designed based F-ratio produced from Pearson's χ^2 statistics.

a, b = row percentages.

Table 4

Regression coefficients, marginal effects and standard errors for past-year physical spousal violence by selected background characteristics, UHS 2006

Characteristic	β	Marginal Effects		SE
Sociodemographic characteristics				
Place of residence (ref: Non-Slum)				
Slum	.131	.025		.021
Age (years) (ref: 15–19)				
20–29	−.094	−.020		.032
30–39	−.675	−.133	***	.038
40–49	−1.250	−.222	***	.039
Education (ref: no education)				
Some primary	−.073	−.015		.018
Some secondary	−.582	.108	***	.021
Income earning activity (ref: not employed)				
Self-employed	.041	.008		.030
Employed for wages	.001	.001		.017
Participation in micro-credit programs (ref: non-participation)				
Participation	.131	.025		.018
Religion (ref: non-Muslim)				
Muslim	.293	.053		.036
Household wealth (ref: poor)				
Middle	−.466	−.093	***	.016
Rich	−.840	−.156	***	.020
Age at first marriage (ref: ≤17 years)				
≥ 18 years	−.011	−.002		.019
Number of children (ref: zero)				
1–2	.405	.072	**	.023
3–4	.464	.083	**	.027
≥5	.579	.105	***	.033
Gender role beliefs				
Acceptable for wife to work, if husband not making money (ref: no)				
Yes	.287	.052	**	.019
Acceptable for wife to work, if husband making money (ref: no)				
Yes	.070	.013		.013
Attitudes towards partner violence				
Wife beating norms (ref: no wife beating norm)				
Some wife beating norms	.451	.086	***	.019
Relational factors				
Husband considers wife opinion in decision making (ref: no opinion considered)				
Some opinion considered	−.778	−.159	***	.021
Household decision-making power (ref: egalitarian)				

Characteristic	β	Marginal Effects		SE
Husband-dominated	−.436	−.082	**	.033
Wife-dominated	−.195	−.038	†	.022
Number of women		9122		
Number of clusters		445		
F-statistics		F(22, 424) = 36.75		

Note: Standard errors (SE) were adjusted for clustering at the strata level (i.e., the primary sampling unit in the UHS sample design)

(ref) = reference category

† p<0.10;

* p<0.05;

** p<0.01;

*** p<0.001.