

## Original Articles

# Association between domestic violence and unintended pregnancies in India: Findings from the National Family Health Survey-2 data

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### ABSTRACT

**Background.** Violence against women, especially by their husbands, is a serious public health issue that is associated with physical, reproductive and mental health consequences. The association between physical violence and unintended pregnancies has not been explored in India.

**Methods.** Data were drawn from the second round of the National Family Health Survey (NFHS-2), India conducted in 1998–99. Unintended pregnancy, defined as a pregnancy that was not wanted at the time of conception, was the dependent variable. A set of independent covariates such as age, place of residence, education, working status, religion, standard of living index, type of family, number of surviving sons, use of contraceptive methods, pregnancies terminated and physical mistreatment by the husband were evaluated using a step-wise multiple logistic regression model.

**Results.** Multiple logistic regression analysis showed that women who had been physically mistreated by their husbands were 47% (OR 1.47; 95% CI 1.25–1.72) more likely to experience unintended pregnancies.

**Conclusion.** Preventing physical violence against women by their husbands could reduce unintended pregnancies.

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### INTRODUCTION

Physical mistreatment of women by their husbands is common in many societies. This is a public health issue associated with physical, reproductive and mental health implications.<sup>1–4</sup> It is

difficult to quantify its prevalence, risk factors and consequences. One of the adverse outcomes of such violence may be unintended pregnancies because of lack of control over sexual decision-making and contraceptive use. Many women might be afraid to discuss contraception because they fear that their partners might respond violently.<sup>5</sup> Negative health outcomes have been associated with unintended pregnancies. These include maternal deaths and complications due to illegal/unsafe abortions,<sup>6–8</sup> late entry into prenatal care,<sup>9–11</sup> increased likelihood of smoking,<sup>12</sup> consumption of alcohol,<sup>13</sup> low birthweight,<sup>14,15</sup> lower likelihood of breastfeeding,<sup>16</sup> as well as risks to infant health when pregnancies are closely spaced.<sup>14,17,18</sup> Some published studies found a statistically significant association between intimate partner violence and unintended pregnancy.<sup>19–21</sup> The adjusted odds of a woman having an unintended pregnancy in the past 5 years were found to be 41% higher if she had ever been physically or sexually abused by her partner.<sup>19</sup> However, similar studies have not been conducted in India. We, therefore, assessed the association between physical violence and unintended pregnancies among currently married pregnant women in India.

### METHODS

Data were drawn from the second round of the National Family Health Survey (NFHS-2), India conducted in 1998–99. Multistage sampling was used to select households. The analysis was restricted to currently married pregnant women from the survey population. They were asked, 'At the time you became pregnant, did you want to become pregnant, did you want to wait until later, or did you not want to become pregnant at all?' Women who stated that they wanted to wait until later, or did not want to become pregnant at all were categorized as having had an unintended pregnancy. The dependent variable was considered as pregnancy intention (unintended pregnancy 1, wanted pregnancy 0). Further, a woman was coded as physically mistreated by her husband if she said that her husband had ever physically mistreated her (never/ever). A set of socioeconomic and demographic independent covariates commonly found to influence contraceptive behaviour, unintended pregnancies and domestic violence were analysed. These included age (<25 v. ≥25 years), place of residence (rural v. urban), women's occupation (working v. not working), women's education level (illiterate, less than middle school, middle school or high

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school and above), religion (Hindu *v.* non-Hindu), standard of living index (high, low or medium), type of family (nuclear *v.* extended), number of surviving sons (no son, 1 son or >1 son), ever contraceptive use (never *v.* ever), and ever terminated pregnancy (never *v.* ever) were considered in the analysis.

*Statistical analysis*

Chi-square test was used to assess the association of each covariate with unintended pregnancies and also that between covariates. Step-wise logistic regression analysis was done to find the association between physical violence and unintended pregnancies. The results are reported as adjusted odds ratio (OR) with 95% confidence intervals (CI).

**RESULTS**

Of currently pregnant women, 27% had experienced unintended pregnancies. Age, women’s education, occupation, standard of living index, type of family, number of living sons, ever contraceptive use, ever terminated pregnancy, and ever physical mistreatment by husband were significantly associated with unwanted pregnancies (Table I). A significantly higher percentage

of women from an older age group (32.4%), who had passed middle school (30.4%) and were not working (27.6%) had experienced unintended pregnancies (Table I). As the number of surviving sons increased, the percentage of unintended pregnancies also increased significantly. Unintended pregnancies were significantly higher among ever users of contraceptive methods (37.1%) than never users of contraceptive methods (26.7%). Further, prevalence of unintended pregnancies was higher (36%) among women who had been physically mistreated by their husbands than among women who had never been physically mistreated by their husbands.

*Multiple logistic regression analysis*

After controlling all other variables, women who were ever physically mistreated by their husbands were 47% more likely to experience unintended pregnancies. Working women were 19% less likely to report unintended pregnancies than non-working women (Table II). As the number of surviving sons increased, the odds of unintended pregnancy also increased significantly. Ever users of contraceptive methods were 1.63-times more likely to experience unintended pregnancies than never users.

TABLE I. Distribution of unintended pregnancies by selected background characteristics of currently married, pregnant women

Characteristic	Unintended pregnancies (%)	Total women (n)	p value
<i>Age (in years)</i>			
15–24	23.3	3826	0.0001
≥25	32.4	2496	
<i>Residence</i>			
Rural	27.1	4701	0.44
Urban	26.2	1621	
<i>Level of education</i>			
Illiterate	27.6	3290	0.0001
Less than middle school pass	27.8	1264	
Middle school pass	30.4	700	
High school and above	21.3	1068	
<i>Religion</i>			
Hindu	25.2	4683	0.0001
Non-Hindu	31.8	1639	
<i>Working status</i>			
Not working	27.6	4510	0.06
Working	25.2	1812	
<i>Standard of living index</i>			
Low	28.6	1988	0.003
Medium	27.2	3187	
High	23.0	1147	
<i>Type of family</i>			
Nuclear	30.4	2011	0.0001
Extended	25.3	4311	
<i>Number of surviving sons</i>			
No son	17.1	3521	0.0001
One son	33.0	1930	
At least 2 sons	52.8	871	
<i>Contraceptive use</i>			
Ever used	37.1	1276	0.0001
Never used	24.3	5046	
<i>Experienced abortion</i>			
Never	26.7	6185	0.07
Ever	33.6	137	
<i>Physically mistreated by husband</i>			
Never	25.3	5406	0.0001
Ever	36.1	916	
Total	26.9	6322	

**DISCUSSION**

We found a clear association between physical violence and unintended pregnancies after controlling for other confounding factors. Other authors have shown a similar association.<sup>19–21</sup> This could be because women who were physically mistreated by their husbands were less likely to use contraceptives,<sup>24</sup> their husbands refused to use condoms or tried to stop them from using a contraceptive,<sup>25</sup> or discontinued the use of spacing methods because of fear. Women have been found to be at risk of violence if their husbands found out the covert use of oral contraceptive pills<sup>5</sup> or if women wanted to negotiate the use of a condom.<sup>23</sup> Our findings indicate that ever contraceptive users were more likely to report unintended pregnancies than never users. A similar conclusion was reported by another study.<sup>9</sup> This may be because of inconsistent use of spacing methods or discontinuing the use of spacing methods due to opposition from the husband. To undergo

TABLE II. Adjusted odds ratio (OR) of unintended pregnancies (95% CI)

Characteristic	Adjusted OR (95% CI)
<i>Level of education</i>	
Illiterate	1.08 (0.90–1.30)
Less than middle school	1.22 (0.99–1.49)
Middle school	1.59 (1.27–2.00)
High school and above	1.00
<i>Religion</i>	
Hindu	1.19 (1.04–1.36)
Non-Hindu	1.00
<i>Working status</i>	
Not working	1.00
Working	0.81 (0.71–0.92)
<i>Number of surviving sons</i>	
No son	1.00
One son	2.25 (1.97–2.56)
At least 2 sons	5.18 (4.38–6.14)
<i>Contraceptive methods</i>	
Ever used	1.63 (1.41–1.88)
Never used	1.00
<i>Physically mistreated by husband</i>	
Never	1.00
Ever	1.47 (1.25–1.72)

sterilization, women have to take permission from their husbands.<sup>24</sup> Women who have undergone sterilization may be subject to violence if their partners feel more justified in accusing them of infidelity.<sup>26</sup> Adoption and consistent use of contraceptive methods is influenced by a combination of factors such as desired number of children, especially sons, educational level of women, women's decision-making power and communication between husband and wife. Educated and working women were more aware of the importance of a small family and of family planning methods than illiterate women. Working women were less likely to report unintended pregnancies than non-working women; a finding that clearly indicates that financially independent women could take decisions in the process of building a family. Our study shows a U-shaped association between education and unintended pregnancy. Newly married couples do not wish to have a child early in the course of their married life. Further, education has a direct impact on the preference for a small family. Our results suggest a clear positive association between the number of sons and unintended pregnancy, suggesting that the number of sons is a surrogate for whether or not a desired family size and composition is fulfilled. A pregnancy occurring once the desired family size and composition are reached is more likely to be reported as unintended.

Most studies are based on live-births occurring in the 3 years preceding the survey and retrospectively categorize live-births in terms of unintended and intended pregnancies. This could underestimate unintended pregnancies because women may classify an unintended live-birth as intended.<sup>27</sup> There may be under-reporting of physical violence because of the sensitivity of the subject, social stigma and participants' privacy and safety concerns. In view of these findings and the fact that the NFHS-2 measured lifetime abuse, there may be recall bias. Although we have demonstrated an association between physical violence and unintended pregnancies, the causal relationship between the two cannot be established from our data.

To the best of our knowledge, this is the first population-based study from India to report an association between domestic violence and unintended pregnancy. We hypothesize that a reduction in physical violence against women could contribute to a reduction in unintended pregnancies. Efforts should be made to reduce risk factors for unintended pregnancy, including domestic violence. Improving women's status through educational and occupational initiatives could contribute to reducing physical violence as well as the incidence of unintended pregnancies.

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