Associations between intimate partner violence and pregnancy complications: A cross-sectional study in India

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Abstract:
BACKGROUND: The high prevalence rates of violence of the intimate partner affects the maternal health of the woman that sometimes ends in maternal mortality as well as the possibility of an adverse effect on the newborn. The purpose of this study was to assess the prevalence and determinants of intimate physical and sexual intimate partner violence (IPV) on mothers and examine the association between IPV and pregnancy complications.

MATERIALS AND METHODS: Data for the present study were retrieved from the National Family Health Survey-IV (2015–2016). In total, 79,729 women completed the domestic violence questions, but 24,882 were considered for this analysis. The study was restricted to currently married women aged 15–49 who had given birth to at least one child in the 5 years preceding the survey. The association between self-reporting pregnancy complications with the experience of IPV was examined using Chi-square test, followed by multivariate logistic regression.

RESULTS: The study findings show that IPV, specifically physical and sexual violence, are associated with pregnancy complications. The results show that 31.6% of the women had experienced some form of IPV. The factors associated with IPV included husband’s alcohol habit, women who had witnessed parental violence, and women whose husbands had shown high marital controlling behavior. The high level of pregnancy complications was reported by women who had experienced sexual violence, emotional violence, and women whose husbands display three or more specific behaviors.

CONCLUSION: Confidential screening for IPV and prompt referral to support services could be crucial in improving women’s reproductive health.

Keywords: Intimate partner violence, marital control, pregnancy complications

Introduction

Gender-based violence has a direct influence on the well-being and lives of women and girls.\(^1\) Violence against women varies and is inflicted at different locations (home, workplace, school, college, etc.) by different perpetrators. They could be spouses, family members, relatives, friends, or co-workers. Violence against women occurs in diverse races, religions, countries, and societies. However, intimate partner violence (IPV) is considered the most pervasive form of gender-based violence.\(^2\) Many researchers including Garcia-Moreno et al.,\(^3\) Devries et al.,\(^4\) and WHO\(^5\) state that IPV is not only a human rights issue but also a public health concern. Besides its impact on the maternal health of a woman, very often, IPV has an adverse effect on newborn children and ends in maternal mortality.
Several studies have documented that the incidence of IPV during pregnancy results in premature birth, miscarriage, abortion either induced and spontaneous, preclampsia or eclampsia, rupture of membranes prior to the onset of labor, low birth weight of baby, and sometimes leads to maternal distress and inadequate antenatal care.[6-9] Recent studies have also documented that IPV can increase maternal health concerns.[10,11] Pallitto et al. found that IPV is a consistent and strong risk factor for unintended pregnancy and abortion in a variety of settings which can result in death or serious complications when performed under unsafe conditions. [12] Besides adverse reproductive health outcomes, IPV also may result in fatal and nonfatal adverse health outcomes of the growing fetus.[13] The recent study by Alebel et al. stated that there is an association between maternal mortality and domestic violence during or at the end of pregnancy,[14] and Berhanie et al. documented that a significant increase in low birth weight and preterm birth was noticed when women suffered intimate partner violence and physical violence during pregnancy.[11] Studies of Indian women by Lee-Rife and Stephenson et al. proved a significant association between IPV and abortion in married women.[15,16] With this backdrop, the aim of this study was to assess the prevalence and determinants of intimate partner violence to women and examine the association of IPV and pregnancy complications.

**Materials and Methods**

This analysis used the secondary data retrieved from the 4th round of the National Family Health Survey (NFHS-IV). It was conducted under the guidance and support of the Ministry of Health and Family Welfare, Government of India, during 2015–2016.[17] The Institutional Review Board of the International Institute for Population Sciences, and ICF International Inc., provided the ethical approval for the original NFHS-IV vide number 631561.0.000.00.071.01 dated 16/10/2013. Written informed consent was taken from all subjects prior to the data collection for the original study.[13] Ethical approval was not taken separately for this analysis as there was no direct involvement of any human subject. A total of 83,397 women were selected randomly for domestic violence module as per the ethical collection of information on domestic violence recommended by WHO (only one eligible woman per household [HHI]).[17] However, 79,729 women completed the module with 96% response rate. Of them, 24,882 women aged 15–49 who were married at the time and had given birth to at least one child in the 5 years preceding the survey were considered for this analysis.

The self-reported pregnancy complications specific to the most recent childbirth occurring in the 5 years preceding the survey were considered as dependent variables. Some such were problems with daytime vision, convulsions, swelling of the hands, body, or face, breech presentation, prolonged labor, and excessive bleeding.

Lifetime experience of physical, emotional, and sexual intimate partner violence was considered as an independent variable.

Physical violence by their partner was measured by asking all respondents if their husbands ever slapped, kicked, dragged or beat up, twisted an arm or pulled hair, shook or threw something at them pushed with a fist or choked or burnt them. To understand the prevalence of emotional violence, respondents were asked whether their spouse said anything to humiliate them in front of others, threaten to hurt or harm them or someone close to them, and insulted or embarrassed them. Similarly, incidence of sexual violence was measured by asking: “Did your spouse ever physically force you to have sexual intercourse even when you did not want to?” and “Did he ever physically force you to perform any sexual acts which you did not like and did he force you with threats to perform sexual acts which you did not want?”. Responses were given scores 1 for yes and 0 for no. The total score obtained by each respondent ranged from 0 to 13. A woman was said to have experienced some form of IPV, if her husband did any of the above 13 actions.

Another covariate considered in this study was marital controlling behavior of the male partner. The following six questions were asked during interview: whether the husband demonstrated anger/jealousy if the respondent talked to other men, often accused the wife of being unfaithful, did not allow any association with female friends, tried to control wife’s connection with her family, insisted on knowing where respondent was at all times, and not left with any money. A score of “1” was assigned to positive response and a score of “0” to negative. The total score ranged from 0 to 6. Respondents were grouped as women with “high marital control,” (displayed three or more of the specified behaviors), “less marital control,” (displayed one or two of the specified behaviors), and woman with “no marital control,” (her husband had to display none of the above six indicators).[18]

Gender equality variable was also considered as covariates.[18] These included maternal age at marriage (under 18 vs. 18 or older), cash earnings in the past 12 months, ownership of personal bank account, and ownership of a mobile phone. Based on response, gender equality index was computed as “no gender equality” category (women who were married before 18 years, did not work outside the home for income, and had no bank account and mobile phone), had “moderate gender equality” with any 1–2 positive responses, and
“greater gender equality” category with any 3–4 positive responses.

The level of participation of respondents in HH decision-making was also considered as another covariate. Respondents were asked a few questions regarding their decision-making power on certain household activities such as purchases, visits to their own family or relatives, and friends’ house and decisions about their own health care.[14] A score of “1” was assigned in cases where the woman took her own decisions on the matters mentioned above and a score of “0” for a negative response. Women who scored 1–2 were considered to have ‘little participation in HH decisions, and those who scored all three were considered as “participating more in HH decisions.” Women who scored 0 were considered as “not participating in HH decisions.”

Sociodemographics assessed included age of respondents, wealth index (as constructed by NFHS), education, religion and social caste and duration of marriage, children ever born (CEB). Husband-related factors included husband’s age, education level, and husband alcohol use. In every variable, don’t know responses were excluded from the analysis. Descriptive frequencies were calculated for all outcomes and covariates, cross-tabulated by lifetime IPV with Pearson Chi-square tests of independence. Univariate and multivariable logistic regression models were used to assess the associations between IPV on each reproductive health outcome.

Results

Of the total 24,882 respondents, 72% were Hindu; 73.7% resided in rural areas; 2.7% were illiterate; 38.3% belonged to SC/ST; 47.3% fell within poor wealth index; and 25.5 had never been exposed to the mass media. Respondents’ mean age at marriage was 19.3 years, the mean duration of marriage was 8.04 years, and the average number of CEB was 2.43. About 75.3% never engaged in any work and 62.4% made HH decisions on their own/in consultation with partners and 48.9% were controlled by their husbands. Approximately 1 in 6 husbands were illiterate, and about 30% had the alcohol habit [Table 1].

Of the 24,882 respondents, 31.6% reported having experienced at least some form of IPV [Table 2]. About 28% women experienced physical violence, 12.0% had experienced verbal and psychological (emotional) violence, and 6.8% reported sexual violence. Physical violence mainly consisted of being slapped (25.5%), pushed (11.8%), arm twisted (10.2%), punched (7.5%), kicked (7.2%), strangled or burnt (2.3%), and beaten with a weapon (0.6%).

Table 1 shows that living in urban area, being poor, Hindu religion, scheduled caste, being illiterate, agriculture occupation, longer duration of marriage, no exposure to media, having 3 or more children were significantly associated with IPV ($P < 0.05$). Husband’s educational level and occupational status, and alcohol use by husband also showed statistically significant association with IPV ($P < 0.001$). As regards gender equality, there was a significant association of participation in household decisions and marital control with IPV. The highest prevalence of all forms of violence was reported by women with higher marital control, women whose husbands use alcohol, and women who had no gender equality. About 40% reported labor complications followed by swelling of the legs (32.0%), excessive bleeding (31.7%), convulsion (17.2%), and difficulty coping with daylight and breech presentation (11.9% each).

As shown in Table 3, IPV was associated with pregnancy complications specifically excessive bleeding, swelling of the legs, and convulsions. About 32.0% of women reported bleeding, 17.2% had convulsions, 32.0% had swelling, and 11.7% had breech presentation. Moreover, 39.9% of the sample had prolonged labor; a significantly higher proportion of the women who had suffered IPV reported prolonged labor than those who had not experienced IPV (43.8% vs. 38.1%).

Pregnancy complications were high in women engaged in agriculture (10.1%), women who belonged to SC (9.5%), and Muslims (9.2%) than their respective counterparts. The level of pregnancy complications decreased with the respondent’s literacy level and media exposure. A small marginal difference was observed between rural and urban residents, young and older women, and poor and rich women. There was a higher level of pregnancy complications in women who had endured sexual violence (14.3%) and emotional violence (13.6%) than physical violence (11.2%). Similarly, women whose husbands displayed three or more specific behaviors reported a higher level of pregnancy complications (13.0%) than their counterparts.

Overall, a high level of pregnancy complications (more than 13%) was reported by women who had endured sexual violence, emotional violence, and women whose husband had displayed three or more specific behaviors [Table 4]. Moreover, the women who had been married for a long time, women who engaged in agriculture, women who did not participate in HH decisions, and women with no formal education reported high pregnancy complications (more than 10%) than their counterparts.

Three multivariate logistic regression models (I, II, and III) were carried out to examine the adjusted effect of
Table 1: Distribution of intimate partner violence (IPV) in women by sociodemographic characteristics, India, 2015-2016

| Characteristics                          | Respondents % | Experienced any form of IPV | P-value |
|------------------------------------------|---------------|----------------------------|---------|
|                                          |               | Yes %                     | No %    |
| Place of residence                       |               |                           |         |
| Urban                                    | 26.3          | 26.5                      | 73.5    | <0.001 |
| Rural                                    | 73.7          | 33.4                      | 66.6    |         |
| Religion                                 |               |                           |         |
| Hindu                                    | 72.0          | 33.3                      | 66.7    | <0.001 |
| Muslims                                  | 16.0          | 28.9                      | 71.1    |         |
| Christian                                | 7.7           | 26.1                      | 73.9    |         |
| Others                                   | 4.3           | 22.0                      | 78.0    |         |
| Social caste                             |               |                           |         |
| Others                                   | 23.6          | 22.5                      | 77.5    | <0.001 |
| Scheduled caste                          | 18.2          | 39.1                      | 60.9    |         |
| Scheduled tribe                          | 20.1          | 31.8                      | 68.2    |         |
| Other backward class                     | 38.0          | 33.5                      | 66.5    |         |
| Wealth index                             |               |                           |         |
| Poor                                     | 47.0          | 40.3                      | 59.7    | <0.001 |
| Middle                                   | 20.3          | 30.0                      | 70.0    |         |
| Rich                                     | 32.7          | 20.0                      | 80.0    |         |
| Age                                      |               |                           |         |
| 15-24                                    | 28.1          | 31.9                      | 68.1    | <0.083 |
| 25-34                                    | 60.3          | 31.1                      | 68.9    |         |
| 35+                                      | 11.6          | 33.1                      | 66.9    |         |
| Literacy level                           |               |                           |         |
| Illiterates                              | 28.7          | 42.2                      | 57.8    | <0.001 |
| Primary                                  | 13.8          | 37.8                      | 62.2    |         |
| Secondary                                | 46.6          | 27.1                      | 72.9    |         |
| Higher                                   | 10.9          | 15.1                      | 84.9    |         |
| Occupational status                      |               |                           |         |
| Not in work                              | 75.3          | 28.9                      | 71.1    | <0.001 |
| Agriculture                              | 13.2          | 42.6                      | 57.4    |         |
| Nonagriculture                           | 11.5          | 36.6                      | 63.4    |         |
| Duration of marriage (years)             |               |                           |         |
| 0-4                                      | 28.0          | 24.6                      | 75.4    | <0.001 |
| 5-9                                      | 39.2          | 31.6                      | 68.4    |         |
| 10-19                                    | 29.5          | 37.0                      | 63.0    |         |
| 20+                                      | 3.3           | 41.1                      | 58.9    |         |
| Children ever born                       |               |                           |         |
| 1-2 children                             | 62.7          | 27.2                      | 72.8    | <0.001 |
| 3 and above                              | 37.3          | 38.9                      | 61.1    |         |
| Media exposure                           |               |                           |         |
| No exposure                              | 25.5          | 39.6                      | 60.4    | <0.001 |
| Exposed to any one                       | 38.0          | 32.5                      | 67.5    |         |
| Exposed to 2-3 media                     | 36.5          | 25.0                      | 75.0    |         |
| Husband's literacy level                 |               |                           |         |
| Illiterates                              | 17.6          | 43.4                      | 56.6    | <0.001 |
| Primary                                  | 14.5          | 37.9                      | 62.1    |         |
| Secondary                                | 54.4          | 29.4                      | 70.6    |         |
| Higher                                   | 13.6          | 18.3                      | 81.7    |         |
| Husband's occupational status            |               |                           |         |
| Agriculture                              | 36.6          | 34.0                      | 66.0    | <0.001 |
| Prof/clerk/sales/service                 | 30.7          | 24.5                      | 75.5    |         |
| Skilled and unskilled                    | 32.7          | 35.5                      | 64.5    |         |

Contd...
### Table 1: Contd...

| Characteristics                          | Respondents | Experienced of any form of IPV | P-value |
|------------------------------------------|-------------|--------------------------------|---------|
|                                          | %           | Yes %                          | No %    |
| Alcohol use of husband                   |             |                                |         |
| No                                       | 69.6        | 23.1                           | 76.9    | <0.001  |
| Yes                                      | 30.4        | 50.9                           | 49.1    |         |
| Marital control                          |             |                                |         |
| No control                               | 51.1        | 18.4                           | 81.6    | <0.001  |
| Less marital control                     | 31.0        | 38.1                           | 61.9    |         |
| Higher marital control                   | 17.9        | 58.0                           | 42.0    |         |
| Gender equality level                    |             |                                |         |
| No gender equality                       | 10.9        | 40.0                           | 60.0    | <0.001  |
| Moderate gender equality                 | 59.4        | 33.8                           | 66.2    |         |
| Greater gender equality                  | 29.7        | 24.0                           | 76.0    |         |
| Household decisions                      |             |                                |         |
| No participation                         | 16.8        | 36.7                           | 63.3    | <0.001  |
| Less participation                       | 20.8        | 38.8                           | 61.2    |         |
| More participation                       | 62.4        | 27.7                           | 72.3    |         |

NS=Not significant

### Table 2: Distribution of various types of intimate partner violence among married women in India, 2015-2016 (n=24882)

| Type of intimate partner violence          | Experienced any form of IPV |
|--------------------------------------------|-----------------------------|
|                                            | Yes | No               |
| Ever-experienced physical violence    | 7010 (28.2) | 17,872 (71.8) |
| Ever-experienced emotional violence      | 2976 (12.0) | 21,906 (88.0) |
| Ever-experienced sexual violence         | 1691 (6.8)  | 23,191 (93.2)  |
| Ever-experienced any form of IPV         | 7855 (31.6) | 17,027 (68.4)  |

IPV=Partner violence victimization

### Table 3: Association between complications of pregnancy and intimate partner violence among women in India, 2015-2016 (n=24882)

| Pregnancy complications                  | Women who reported pregnancy complication | Women who Experienced any form of IPV |
|------------------------------------------|-------------------------------------------|--------------------------------------|
|                                          | Yes | No               | P-value |
| Prolonged labor                          |     |                  |         |
| No                                       | 14,950 (60.1) | 4416 (56.2) | 10,534 (61.9) | <0.001 |
| Yes                                      | 9932 (39.9)  | 3439 (43.8) | 6493 (38.1)   |         |
| Had swelling of leg                      |     |                  |         |
| No                                       | 16,929 (68.0) | 5051 (64.3) | 11,878 (69.8) | <0.001 |
| Yes                                      | 7953 (32.0)  | 2804 (35.7) | 5149 (30.2)   |         |
| Experience of excessive bleeding         |     |                  |         |
| No                                       | 17,006 (68.3) | 5136 (65.4) | 11,870 (69.7) | <0.001 |
| Yes                                      | 7876 (31.7)  | 2719 (34.6) | 5157 (30.3)   |         |
| Had convulsion                           |     |                  |         |
| No                                       | 20,595 (82.8) | 6129 (78.0) | 14,466 (85.0) | <0.001 |
| Yes                                      | 4287 (17.2)  | 1726 (22.0) | 2561 (15.0)   |         |
| Had difficulty with daylight             |     |                  |         |
| No                                       | 21,931 (88.1) | 6638 (84.5) | 15,293 (89.8) | <0.001 |
| Yes                                      | 2951 (11.9)  | 1217 (15.5) | 1734 (10.2)   |         |
| Experience breech presentation           |     |                  |         |
| No                                       | 21,978 (88.3) | 6900 (87.8) | 15,078 (88.6) | <0.104 |
| Yes                                      | 2904 (11.7)  | 955 (12.2)  | 1949 (11.4)   |         |
| Any form of pregnancy complications      |     |                  |         |
| No complication                          | 8089 (32.5)  | 2103 (26.8) | 5986 (35.2)   | <0.001 |
| Any form of complications                | 16,793 (67.5) | 5752 (73.2) | 11,041 (64.8) |         |

NS=Not significant

IPV=Partner violence victimization
IPV and other covariates. In the first model, the physical, emotional, and sexual violence were included, and in the second model, HH decision-making status, marital control, and gender equality variables were included to find out the adjusted effect on pregnancy complications. In model 3, the step-wise logistic regression analysis was carried out to identify the factors associated with pregnancy complications.

Model 1: The gross effect of intimate partner physical and emotional violence on pregnancy resulting in complications showed a statistical significance in the first model [Table 5]. Result revealed that women who experienced physical violence were at 1.3 times higher risk to have had pregnancy complications (Adjusted Odd Ratio (AOR) = 1.336; \( P < 0.001, 95\% \) confidence interval [CI] = 1.247–1.431) compared to those who had not experienced physical violence. Similarly, women who had experienced sexual violence were more likely to report some form of pregnancy complications (AOR = 1.289; \( P < 0.001, 95\% \) CI = 1.138–1.459) compared to those who had not experienced sexual violence. Experience of emotional violence was also significantly associated with some form pregnancy complications in the first model (AOR = 1.192; \( P < 0.001, 95\% \) CI = 1.081–1.315). Model I revealed that any form of pregnancy complications could be induced by all the three types of IPV (\( P < 0.001 \)).

Model II: In this model, covariates related to respondent’s gender role (decision-making, marital control, and gender equality) were put together with first model covariates. It was observed that all the covariates showed a statistically significant association with some form of pregnancy complications. Women who experienced physical and sexual violence were more likely to report some form of pregnancy complications than women who had not experienced any violence (AOR = 1.276, \( P < 0.001 \); AOR = 1.208 \( P < 0.05 \)). The odds of pregnancy complications increased as the levels of marital control increased (AOR = 1.194, for less marital control and AOR = 1.408, \( P < 0.001 \) for high marital control). Women who fell in the high gender equity category were at 1.5 times higher risk to report some form of pregnancy complications (AOR = 1.481; \( P < 0.001, 95\% \) CI = 1.347–1.672) compared to those in “no equity” category. Overall, pregnancy complications are influenced by all types of covariates, except emotional violence.

Model III: In this model, the step-wise logistic regression analysis was carried out to identify the factors associated with any form of pregnancy complication. It explains that women who experienced physical and sexual violence were at 1.4 and 1.2 times, respectively, higher risk of forms of pregnancy complications (AOR = 1.351, \( P < 0.001, 95\% \) CI = 1.263–1.446; AOR = 1.246, \( P < 0.05 \), 95\% CI = 1.100–1.411) compared to their counterparts. Experience of emotional violence did not show any significant association with pregnancy complications. Experience of any form of pregnancy complications varies greatly according to a husband’s controlling behavior. As expected, women who reported higher husband’s controlling behavior were at 1.6 times higher risk of some form of pregnancy complications (AOR = 1.568, \( P < 0.001, 95\% \) CI = 1.444–1.702) than women who did not have controlling husbands. However, women who fell within the category of greater equality were at 1.2 times higher risk of having some form of pregnancy complications (AOR = 1.177, \( P < 0.05, 95\% \) CI = 1.059–1.307). The gross effect of wealth index, respondent’s educational level, and their occupational status showed statistical significance on forms of pregnancy complications at 0.5 level. Women who had been married longer were less likely to report pregnancy complications than women with fewer years of marriage (0–4) (AOR = 0.771, \( P < 0.001 \)). Women who had had more media exposure were at 1.2 times higher risk of pregnancy complications (AOR = 1.242; \( P < 0.001, 95\% \) CI = 1.135–1.359) compared to those who had never been exposed to mass media.

Discussion

The WHO’s multi-country study on women’s health and domestic violence against women observed that one-third of the women have experienced violence at some point in their lives at the hands of their husbands.[21] Another study recorded that around the world, South Asian women reported the highest regional rate of IPV prevalence (43%).[22] ICRW reported that a little above half of all Indian women (52%) experienced some form of spousal abuse in their lifetime.[23] Similarly, a review analysis of 137 Indian IPV articles revealed that a median 41% of women had reported experiencing domestic violence.[24] Another study in Haryana found that more than one-third (37%) had experienced domestic violence.[25] The present study documented a lower prevalence of IPV than all the studies cited above. This study’s finding shows that 31.6% of the women aged 15–49 who had given birth to at least one child in the 5 years preceding the survey had experienced at least some form of IPV, which indicates a slight downward trend of IPV prevalence in India.

Research findings of Jeyaseelan et al., Rocca et al., Das et al., Reichel, and Ram et al. agree with the findings of the present study that low socioeconomic status seems to be a major determinant for IPV.[26–31] This study found that low educational attainment by the spouse was an IPV correlate, which is consistent with other studies that have explored determinants of lifetime IPV.[32–34] This study indicates that women employed in nonagricultural...
Table 4: Distribution of pregnancy complications among married women by various characteristics, India, 2015-2016

| Characteristics                        | None N (%) | Low level N (%) | High level N (%) |
|----------------------------------------|------------|-----------------|------------------|
| Place of residence**                  |            |                 |                  |
| Urban                                  | 2088 (31.9)| 3964 (60.5)     | 497 (7.6)        |
| Rural                                  | 6001 (32.7)| 10,713 (58.4)   | 1619 (8.8)       |
| Religion***                            |            |                 |                  |
| Hindu                                  | 5715 (31.9)| 10,654 (59.4)   | 1555 (8.7)       |
| Muslim                                 | 1327 (33.4)| 2278 (57.4)     | 365 (9.2)        |
| Christian                              | 728 (37.8) | 1084 (56.3)     | 115 (6.0)        |
| Others                                 | 319 (30.1) | 661 (62.3)      | 81 (7.6)         |
| Social caste***                        |            |                 |                  |
| Others                                 | 1956 (33.3)| 3476 (59.2)     | 439 (7.5)        |
| Scheduled caste                        | 1360 (30.0)| 2750 (60.6)     | 430 (9.5)        |
| Scheduled tribe                        | 1871 (37.4)| 2749 (54.9)     | 358 (7.7)        |
| Other backward class                   | 2902 (30.7)| 5702 (60.2)     | 862 (9.1)        |
| Wealth index***                       |            |                 |                  |
| Poor                                   | 3995 (34.2)| 6631 (56.7)     | 1068 (9.1)       |
| Middle                                 | 1650 (32.7)| 2992 (59.3)     | 404 (8.0)        |
| Rich                                   | 2444 (30.0)| 5054 (62.1)     | 644 (7.9)        |
| Age**                                  |            |                 |                  |
| 15-24                                  | 2202 (31.5)| 4163 (59.6)     | 620 (8.9)        |
| 25-34                                  | 4857 (32.3)| 8911 (59.3)     | 1248 (8.3)       |
| 35+                                    | 1030 (35.8)| 1603 (55.6)     | 248 (8.6)        |
| Literacy level***                     |            |                 |                  |
| Illiterates                            | 2532 (35.5)| 3924 (54.9)     | 686 (9.6)        |
| Primary                                | 1137 (33.1)| 2005 (58.3)     | 296 (8.6)        |
| Secondary                              | 3620 (31.2)| 7027 (60.7)     | 939 (8.1)        |
| Higher                                 | 800 (29.5) | 1721 (63.4)     | 195 (7.2)        |
| Occupational status***                |            |                 |                  |
| Not in work                            | 6157 (33.0)| 11,001 (58.7)   | 1555 (8.3)       |
| Agriculture                            | 1043 (31.7)| 1914 (58.2)     | 332 (10.1)       |
| Nonagriculture                         | 859 (30.1) | 1762 (61.8)     | 229 (8.0)        |
| Duration of marriage in years***      |            |                 |                  |
| 0-4                                    | 231 (29.2) | 4337 (62.3)     | 590 (8.5)        |
| 5-9                                    | 3238 (33.2)| 5711 (58.5)     | 813 (8.3)        |
| 10-19                                  | 2516 (34.3)| 4191 (57.1)     | 627 (8.5)        |
| 20+                                    | 304 (36.7) | 438 (52.9)      | 86 (10.4)        |
| Children ever born***                 |            |                 |                  |
| 1-2 Children                           | 4887 (31.3)| 9437 (60.5)     | 1287 (8.2)       |
| 3 and above                            | 3202 (34.5)| 5240 (56.5)     | 829 (8.9)        |
| Media exposure***                     |            |                 |                  |
| No exposure                            | 2264 (35.7)| 3488 (55.0)     | 592 (9.3)        |
| Exposed to any one                     | 3149 (33.3)| 5571 (59.0)     | 729 (7.7)        |
| Exposed to 2-3 media                   | 2676 (29.4)| 5618 (61.8)     | 795 (8.7)        |
| Husband's literacy***                 |            |                 |                  |
| Illiterates                            | 1512 (34.5)| 2430 (55.4)     | 442 (10.1)       |
| Primary                                | 1200 (33.4)| 2084 (58.0)     | 312 (8.7)        |
| Secondary                              | 4352 (32.2)| 8067 (59.6)     | 1111 (8.2)       |
| Higher                                 | 1025 (30.4)| 2096 (62.2)     | 251 (7.4)        |
| Husband's occupational status***      |            |                 |                  |
| Agriculture                            | 3037 (33.3)| 5232 (57.4)     | 844 (9.3)        |
| Prof/clerk/sales/service              | 2444 (32.0)| 4551 (59.5)     | 649 (8.5)        |
| Skilled and unskilled                  | 2608 (32.1)| 4894 (60.2)     | 623 (7.7)        |

Contd...
and agricultural sectors are more at risk of experiencing IPV compared to homemakers. This corroborates the findings of Kamat et al., Babu and Kar, Madhivanan, Krupp and Reingold, George et al., and Ram et al.[31,35‑38]

Further, the study was aimed at assessing the association between IPV and pregnancy complications. Devries, Urquia et al., and Nunes et al. noticed that the severity and type of intimate partner violence could determine the severity of the outcome.[39‑41] This study also found a statistically significant association between the experience of IPV and pregnancy complications. The research findings by Dalal, Wang, Svanstrom, WHO, and Dalal and Lindqvist are also in agreement with the findings of the present study that women who suffered IPV reported more acts of controlling behavior by their intimate partner.[42‑44] Low educational status of women has been suggested as a risk factor for pregnancy complications in this study as indicated in previous studies by Joshi et al., Kiran et al., Mohammed et al., Solomon et al., Shrivastava and Shrivastava, and Naik et al.[32,33,45‑48] The study found that the risk of pregnancy complications was significantly higher in those who had endured some violence compared to those who had not suffered any violence. The main reason for this situation would be the powerlessness and subordination of women in HHs. Dynamic empowerment and involvement of women in social and economic activities should increase their bargaining power in the HHs. In addition, it is necessary to identify battered women in the society and provide special programs and support for safe motherhood, specifically for those who have been victims of their partner’s violence during their pregnancy.

In view of this, the role of frontline health-care providers (ASHA, multipurpose health workers, and village health nurses) becomes critical. Therefore, these frontline health-care providers who provide ANC services could be the channel whereby the issue of domestic violence is dealt with. This would require some effort on the part of the FHWs to identify high-risk women and provide counsel on how to protect themselves from GBV during pregnancy.

**Conclusion**

The present study suggests that IPV is a common occurrence across the different socioeconomic groups of Indian communities. However, the less empowered and marginalized women fall victim to their partners’ violence more frequently than other married women. The study also showed that women who reported physical and sexual IPV were more likely to report more pregnancy complications than the women who experienced emotional IPV. As expected, a husband’s controlling behavior created a higher risk of forms of pregnancy complications. The results highlight the significance of evaluating the consequence of IPV on the complications of pregnancy. The findings can be used by frontline field workers in India (domestic violence organizations) to develop and

### Table 4: Contd...

| Characteristics                      | None | Low level | High level |
|--------------------------------------|------|-----------|------------|
|                                      | N (%)| N (%)     | N (%)      |
| Alcohol use of husband**             |      |           |            |
| No                                   | 5742 (33.2) | 10126 (58.5) | 1453 (8.4) |
| Yes                                  | 2347 (31.0) | 4551 (60.2)  | 663 (8.8)  |
| HH decision***                       |      |           |            |
| No participation                     | 1385 (33.1) | 2390 (57.1)  | 409 (9.8)  |
| Less participation                   | 1533 (29.6) | 3189 (61.5)  | 461 (8.9)  |
| More participation                   | 5171 (33.3) | 9098 (58.6)  | 1246 (8.0) |
| Marital control***                   |      |           |            |
| No control                           | 4644 (36.5) | 7199 (56.6)  | 876 (6.9)  |
| Less marital control                 | 2327 (30.2) | 4723 (61.2)  | 662 (8.6)  |
| Higher marital control               | 1118 (25.1) | 2755 (61.9)  | 578 (13.0) |
| Gender equality level***             |      |           |            |
| No gender equality                   | 1002 (36.8) | 1480 (54.4)  | 240 (8.8)  |
| Moderate gender equality             | 4847 (32.8) | 8681 (58.8)  | 1241 (8.4) |
| Greater gender equality              | 2240 (30.3) | 4516 (61.1)  | 635 (8.6)  |
| Experience of intimate partner violence |     |           |            |
| Emotional violence***                | 749 (25.2)  | 1823 (61.3)  | 404 (13.6) |
| Physical violence***                 | 1869 (26.7) | 4357 (62.2)  | 784 (11.2) |
| Sexual violence***                   | 395 (23.4)  | 1055 (62.4)  | 241 (14.3) |
| Any form of intimate partner violence*** | 2103 (26.8) | 4878 (62.1)  | 874 (11.1) |

***Statistically significant at P<0.001. **Statistically significant at P<0.01
target interventions to vulnerable communities. In
addition, this study also fills the gap in the literature
on the examination of the link between physical IPV
and pregnancy complications in India. The present
analysis suggests that it is necessary to incorporate
IPV screening and other services into primary health
care in order to improve women’s reproductive health.
Health workers at the grassroots level should be trained
on how to screen, counsel, treat, and follow up abused
women. Above all, there is a greater need to educate
the young generation about the norms and values of
mutual respect and healthy relationships between
married couples.

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