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## Correlates of Intimate Partner Physical Violence Among Young Reproductive Age Women in Mysore, India

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### Abstract

Few studies have examined intimate partner physical violence (IPPV) in south India. This article examines the frequency and correlates of IPPV among 898 young married women from urban, rural, and periurban areas of Mysore, India. Most (69.2%) of the participants were Hindus and 28.7% were Muslims. Overall, 50% of participants reported some type of IPPV. Factors that were independently associated with IPPV included being younger than 18 years at the time of marriage, contributing some household income, having anal sex, reporting sexual violence, and having a sex partner who drinks alcohol and smokes cigarettes. Women with skilled occupation were at reduced odds of experiencing IPPV compared with women who did not work. These findings suggest that IPPV is highly prevalent in this setting and that additional interventions are needed to reduce morbidity particularly among young women. These data also suggest that more studies are needed among men who perpetrate IPPV in south India.

### Keywords

income; India; intimate partner; violence; women

### Introduction

Intimate partner physical violence (IPPV) is a pervasive public health problem affecting both developed and developing countries.<sup>1</sup> More than 50 population-based surveys from 46 countries report that from 10% to 69% of women report being hit or otherwise physically harmed by their intimate partner at some point in their lives.<sup>2</sup> As many as 52% reported physical violence in the previous 12 months, and up to 45% say it occurred in their current relationship.<sup>3</sup> Not only is IPPV highly prevalent, it also has substantial impact on health. In studies from across the world, physical violence carried out by intimate partners has been linked to serious physical injuries, homicides, unwanted pregnancies, miscarriages, induced abortions, and vulnerability to HIV and other sexually transmitted infections.<sup>4–6</sup>

A number of risk factors have been associated with IPPV. Women reporting physical assault by an intimate partner are usually younger in age,<sup>7</sup> lower in socioeconomic status,<sup>8</sup> lower in

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educational attainment,<sup>7,9</sup> and lack a remunerated occupation.<sup>10</sup> Partner characteristics most predictive of IPPV among women includes lower educational attainment,<sup>11,12</sup> alcohol abuse,<sup>9,13</sup> multiple partners,<sup>13</sup> illegal drug use,<sup>8,12</sup> and irregular or intermittent employment.<sup>14</sup> Studies have also found that IPPV is frequently found concurrently with sexual violence.<sup>15</sup> Findings are mixed about whether one type of violence precedes or predicts the other. Mohammadkhani et al,<sup>16</sup> for instance, found that the experience of physical or psychological violence increased the likelihood of sexual violence victimization. Trickett et al,<sup>17</sup> on the other hand, found that sexual abuse predicted later victimization with physical or further sexual violence. Whatever the case, women experiencing one form of victimization appear to be at much greater risk for experiencing another form. White and Smith,<sup>18</sup> in a study of dating violence in the United States, found that women who experienced one form of victimization were 4.5 times more likely to also experience the other.

Only a small number of studies have examined both the prevalence and risk factors for IPPV among women in India. During 1997–1999, the International Clinical Epidemiologists Network (INCLIN) in collaboration with the International Center for Research on Women (ICRW) conducted a household survey in 7 Indian cities. They found lifetime IPPV ranging from 12% in non-slum urban areas of Delhi to 65% in inner-city slums in Nagpur. Approximately 26% of women had experienced either physical or sexual violence in the past 12 months.<sup>19</sup> Risk factors for physical violence included alcohol use by spouse, dowry harassment where a woman is bothered or harassed for dowry by her fiancé's family or relatives, harsh physical punishment as a child, and witnessing family violence.<sup>19,20</sup> Babu and Kar<sup>21</sup> conducted a population-based study in eastern India and found an overall lifetime prevalence of IPPV of 16%. Predictors of physical violence included age, rural/urban residence, religion, caste, and household income.<sup>21</sup> Rocca et al,<sup>22</sup> in a study of 744 married women in low-income communities in Bangalore, found more than half (56%) of study participants had reported having ever experienced physical violence; and 27% reported violence in the prior 6 months. Women in “love marriages,” those where the family did not select a spouse, and those participating in activities outside the home were at higher risk for domestic violence.<sup>22</sup> Dalal and Lindqvist,<sup>23</sup> in a study using data from the Government of India National Family Health Survey 3, 2005–2006, found reported lifetime prevalence of emotional violence of 14%, less severe physical violence of 31%, severe physical violence of 10%, and sexual violence of 8%.

Unfortunately, previous studies of IPPV in India have been difficult to generalize to different populations within the country and across the world. Existing studies have used a variety of indicators and instruments for measuring intimate partner violence making inter- and cross-country comparisons difficult. The most comprehensive study, a household survey carried out in 2000 by INCLIN,<sup>19</sup> predated efforts by the World Health Organization (WHO) to standardize definitions and survey questions for IPPV in 2003.<sup>2</sup> The study by Babu and Kar,<sup>24</sup> although robust, also used a custom instrument that complicated comparisons with other populations within and outside India. Additionally, India is a populous and heterogeneous country with a variety of different populations. The few studies that have been done on IPPV, although informative, have only described a small cross-section of women in this vast country. Current studies have mainly been predominantly among urban populations in India's largest cities. Whether women living in urban and periurban areas of the country face the same levels of violence is still a very open question.

This study investigated the prevalence of and risk factors for IPPV using standardized measures developed by the WHO for the WHO Multi-Country Study on Women's Health and Domestic Violence.<sup>2</sup> The research explores the prevalence of intimate partner violence

reported by young reproductive age women living in urban, periurban, and rural areas of Mysore district in the south Indian state of Karnataka.

## Methods

### Study Population and Study Design

Cross-sectional analyses of baseline findings were done of a prospective cohort study of young married women to investigate the prevalence and correlates of IPPV. The prospective cohort study was designed to examine the relationship of abnormal vaginal flora and acquisition of herpes simplex virus type 2 infection among young reproductive age women in Mysore, India. Study participants were recruited between November 2005 and March 2006. The recruitment process is described elsewhere.<sup>25</sup> In brief, women were recruited through health education programs offered in the rural and periurban communities around Mysore city in south India. At the end of the health education program, women were invited to participate in the study and get screened for reproductive tract infections. Interested participants were given contact details and asked to visit the study sites at either CSI Holdsworth Memorial Hospital or Chitra's Hospital. At baseline, and at 3- and 6-month visits, participants underwent an interviewer-administered questionnaire and a physical examination, during which biologic specimens, including vaginal, high cervical swabs, and venous blood, were collected for screening of reproductive tract infections. For inclusion, participants had to be between 15 and 30 years old, sexually active, willing to undergo a pelvic examination, and planning to stay in the area for 6 months. Data were collected from all eligible participants who had undergone informed consent process and given written informed consent. The study was approved by the Committee for Protection of Human Subjects at the University of California, Berkeley, and Asha Kirana Institutional Review Board, Mysore, in compliance with federal regulations on protection of human subjects.

### Interview

Eligible consenting women were assigned a study identification number. All subsequent documents were coded with the study identification number and no personal identifiers. Participants underwent a structured 40-minute interview in the local language of Kannada by trained interviewers.

### Study Questionnaire

Information was collected in the following domains

*Sociodemographic variables:* These included age, education, religion, marital status, monthly household income, and occupation.

*Violence variables:* 12 items on sexual violence and 12 on physical violence. Sexual violence items were asked before physical violence items.

*Sexual risk variables:* Unprotected vaginal, oral, and anal sex in prior 3 months and lifetime; number of sex partners in past 3 months and lifetime; and having sex while partner was under the influence of alcohol.

Local multilingual staff were hired and trained on all aspects of the study. A manual of operations with written protocols were developed on data collection, including recruitment, obtaining consent, orienting participants, specimen collection, and follow-up procedures. Interviewers were trained to administer the questionnaire in a standardized nonjudgmental fashion. One of the guiding principles of training was the assurance of confidentiality of any information divulged through contact with participants. The WHO ethical and safety recommendations for research on domestic violence against women were used as a guide.<sup>26</sup>

## Measures

IPPV was measured with 12 items that were used by the WHO multi-country domestic violence study.<sup>15</sup> Each IPPV item had 4 responses: 0 (never or 0 times); 1 (rarely or 1–2 times a year); 2 (sometimes or less than once a month); 3 (frequently or at least once a month). Responses were collapsed into 2 categories with “0” describing not experiencing violence and “1” experiencing violence. A composite variable was developed for IPPV that aggregated all the 12 items describing IPPV in the prior 12 months. Similarly, sexual violence was measured with 12 items and each item also had 4 responses as with IPPV. A composite sexual violence variable was developed that measured whether a women had experienced any of the 12 items describing sexual violence in the past 12 months. See text box below for measures used to document physical and sexual violence by intimate partner.

Measures used in the study to document physical and sexual violence by an intimate partner in the past 12 months and during pregnancy:

### Sexual violence by an intimate partner

- Forced to have sex when she did not want to because she was afraid what he might do if she refused
- Forced to have sex when she was not willing
- Physically forced to do something sexual that was degrading or humiliating
- Used force (such as hitting, holding her down, or using a weapon) to make her have sex
- Forced to have sex when her judgment was impaired (drugged, medicated, or asleep)
- Forced to have sex when/where other people may hear/see
- Criticize or humiliate her about sex

### Physical violence by an intimate partner

- Slapped, hit, kicked, beat, pushed, or shoved her
- Pulled hair or dragged her by her hair
- Smothered, choked, or attempted to or actually strangled her
- Thrown something at her or burned her with hot object or water
- Put dangerous substance on her to hurt her (acid/kerosene)
- Used a weapon to hurt her physically

## Statistical Analysis

Data were entered in an Access database and analyzed in Stata 10.0 (Stata Corporation, College Station, TX). Univariate associations of baseline characteristics for IPPV were made using Pearson  $\chi^2$  test of Fischer exact methods. Variables with *P* values less than .05 were considered for inclusion in unadjusted and adjusted logistic regression models with test of significance being 2-tailed (*P* < .05). Confidence intervals were calculated at the 95% level.

The unadjusted logistic regression models included preselected variables to examine their association with IPPV. The models included sociodemographic characteristics such as education, religion, occupation, contribution to household income, age at marriage; sexual risk variables such as oral and anal sex in lifetime, having sex while partner was under the influence of alcohol, and having experienced sexual violence; and partner characteristics

included education, occupation, other sex partners, alcohol and cigarette use. Variables with *P* values less than .05 were considered for inclusion in a multivariable logistic regression model. Tests of significance were 2-tailed ( $P < .05$ ). All confidence intervals were calculated at the 95% level.

## Results

A total of 2131 women were screened for the study out of which 1193 were eligible, 996 (83%) agreed to participate, and 898 completed the baseline questionnaire.

### Social and Demographic Characteristics

The mean age of participants was 25.8 years (range: 16–30 years). About 74% reported their sole occupation as “housewife.” About 20% reported working as unskilled agricultural laborers or rolling incense sticks or *beedis*, and 6% had other occupations. More than a third of participants reported not contributing anything to the household income (see Table 1).

### Sexual Risk Behaviors

In total, 55 women (6.1%) reported ever having anal sex, of whom 41 reported having anal sex in the past 3 months. A total of 40 women (4.5%) reported ever having oral sex, of whom 34 reported having it in the past 3 months. About 360 women (40.1%) reported having sex while their partner was under the influence of alcohol, and 98% of those sex acts were unprotected.

### Partner Characteristics

As shown in Table 2, a third of the participant’s partners were illiterate, 45% were unskilled workers, and 44% skilled; 11% of the participant’s partners were drivers. In India, drivers in particular have been found to have highly risky lifestyle, which places them at increased risk for HIV, sexually transmitted infections, and marital problems, including multiple sex partners and violence. Hence we disaggregated “drivers” as an occupational category. About 8% women reported that their partners had other sex partners. In addition, 43.5% and 48.4% of participants said their partners drank alcohol and smoked cigarettes, respectively.

### Prevalence and Correlated of Physical Violence

Overall, 50% of participants reported some type of IPPV, and 5.7% said they experienced physical violence during their pregnancy. Table 3 describes the frequency and types of physical violence reported for the previous 12 months.

Women experiencing IPPV had less education, lower job skill levels, lived longer with their partners, contributed some household income, and were younger than 18 years at the time of marriage. They were also more likely to report anal sex, sex with a partner under the influence of alcohol, and sexual violence. Women who experienced IPPV were also more likely to have partners with less than 7 years of education who used alcohol and cigarettes and had other sex partners.

Unadjusted analyses showed that women with more than 7 years of education had 0.65 times the odds of experiencing IPPV as compared to women with no education (95% confidence interval [CI] = 0.47–0.89). Participants reporting skilled jobs had 0.54 odds of experiencing IPPV as compared to women who were unskilled/housewives (95% CI = 0.30–0.98).

Women who contributed some household income were at 2.39 (95% CI = 1.64–3.48) times the odds of experiencing IPPV compared with women who contributed no income. Women younger than 18 years at the time of marriage were at 1.70 (95% CI = 1.25–2.32) times the odds of experiencing IPPV as compared with women older than 18 years at marriage.

Women who reported anal sex had 2.35 increased odds of also reporting IPPV as compared with those women who did not (95% CI = 1.30–4.23). Women saying their partners had other sex partners were at 2.11 the odds of reporting IPPV (95% CI = 1.26–3.55). Similarly, women reporting that their partner drank alcohol were at 2.49 (95% CI = 1.90–3.27) times the odds of experiencing IPPV compared with those who did not. In addition, women whose partners smoked had 1.82 (95% CI = 1.40–2.37) times the odds of IPPV as compared with women with nonsmoking partners. Finally, women who reported intimate partner sexual violence were at 5.68 increased odds of also experiencing IPPV as compared with women who did not report sexual violence (95% CI = 4.18–7.70; Table 4).

Factors found significant in the unadjusted analysis were included in the multivariable logistic regression model. Those that remained independently associated with an increased relative odds of IPPV included being younger than 18 years at the time of marriage, contributing some of the household income, having anal sex, having a partner who drinks alcohol and smokes cigarettes, and reporting sexual violence. Finally, woman with a skilled occupation also were at reduced odds of experiencing IPPV.

## Discussion

In this study of 898 young married women from rural and periurban areas around Mysore, about half reported experiencing IPPV in the previous 12 months and 6% reported IPPV during pregnancy. While these data are roughly comparable to findings from other parts of the world,<sup>2</sup> they appear higher than other studies from India. For instance, in the largest, multisite study conducted by INCLEN and ICRW, only 26% of women reported any type of intimate partner violence in the previous year.<sup>19</sup> Rocca et al,<sup>22</sup> in a study of south Indian urban women, reported that 27% of study participants had experienced physical violence in the previous 6 months.

These variations in IPPV prevalence found across different studies point to some of the difficulties in collecting data on interpersonal partner violence in developing countries. First, it appears important that researchers adopt a standardized set of measures such as those developed by the WHO<sup>15</sup> to make comparability easier across different populations. As the literature also shows, estimating prevalence of IPPV is highly susceptible to underreporting.<sup>27</sup> Most incidents of IPPV are revealed and the exceptions are typically only reported to friends, neighbors, religious institutions, or community groups. In this case, our study hired interviewers directly from the communities where the survey was carried out, and we believe this increased the willingness of women to share even highly sensitive information on IPPV. Finally, India is a highly heterogeneous country. Differences in cultural and social norms that condone violence may be reflected both in the willingness of victims to identify themselves and in the levels of violence found in households.

Univariate analyses suggest that a woman's status in the household may play an important role in whether she experiences IPPV. Educational attainment appeared protective. Women with >7 years of schooling experienced the lowest levels of IPPV. Similarly, women who said that they had skilled occupations were less likely to experience IPPV. Interestingly, women who contributed some household income were at significantly higher odds of being the victim of violence. This finding is consistent with research from India and other developing countries.<sup>28,29</sup> On the other hand, studies have found a nuanced relationship between a woman's contribution to household income and experience of IPPV. For instance, female employment typically functions as a protective factor only when a partner is also employed; if an employed woman is partnered with an unemployed or underemployed spouse, her risk of violence increases. It is likely that a woman's contribution of income to a

household interacts with risk for IPPV in highly complex ways and appears to be contextual. This area is deserving of additional research.

Women who were married at <18 years and who reported anal sex were also at significantly increased odds of violence. Partner characteristics played a major role in women's odds for experiencing IPPV.<sup>8,9,12-14</sup> Having a partner with other sex partners, who drinks alcohol, or smokes cigarettes significantly increased a woman's odds for physical violence. Finally, perhaps not surprisingly, women who reported sexual violence by an intimate partner were also at increased risk for IPPV. All these findings are consistent with the literature both in India and worldwide.

In a multivariable logistic regression model, only having a skilled occupation lowered the relative odds of experiencing IPPV. Similar to unadjusted analysis, being younger than 18 years at marriage, contributing some but not all of the household income, and reporting sexual violence increased the relative odds of IPPV. Similarly, women with partners who drank alcohol or smoked cigarettes had higher relative odds of IPPV after adjusting for other confounders.

The findings of this study suggest that interventions aimed at increasing women's job skills may provide some protection against IPPV. We hypothesize that such training may increase a woman's social networks and improve her status within the family. On the other hand, there is a risk that focusing primarily on providing opportunities for women to contribute some income to the household may actually put some at increased risk for physical violence. We suspect that partial contributions may upset the power dynamic in marital relationships without providing sufficient leverage to negotiate physical safety within the home. Since this study was cross-sectional in design, we were unable to determine if this relationship changed over time. It is possible that increasing a wife's household contribution may exacerbate the risk of violence over the short term but reduce IPPV over time. There is a need for longitudinal studies, which can shed more light on this relationship in India.

As with other studies,<sup>8,9,12-14</sup> partner characteristics are important correlates of IPPV in India. There is an extensive literature in which use and abuse of alcohol has been identified as a major risk factor for perpetration of physical violence. Other risky behavior such as cigarette smoking has also been associated with IPPV. Additionally, women reporting sexual abuse by their partners were also at increased odds for physical abuse. Although all these correlates have been well discussed, it is worthwhile to point out that there is a compelling need for additional interventions that involve the partners of women experiencing violence.

The results of the study suggest that IPPV is widespread in south India and presents a large public health challenge. Research from across the world suggests that improving the state of the country's women will be critical to development goals for the country. It is clear that IPPV cannot be separated from the overall development of women. On the other hand, ensuring higher levels of education and job skills is clearly only part of the solution. Any effective strategy must also address male partners and the nuanced interaction of gendered social roles with IPPV in this highly traditional society.

Our study has several limitations. There could be recall and information bias as sexual histories were self-reported and retrospective. It is possible that women underreported sexual violence and sexual risk behaviors owing to social desirability bias. Participants also were not knowledgeable about their partners so this may have led to misclassification. Because this misclassification would be nondifferential, the association would lead to a null relationship. As this is a cross-sectional analysis of baseline data of a cohort study, it is not possible to establish causal relationships between the factors examined and IPPV. In

particular, the temporal relationship between physical violence and sexual violence could not be assessed given the cross-sectional nature of the data. Finally, because the study did not use a random sample, findings may not be generalizable to other populations.

Despite the limitations, this study contributes to the sparse literature on IPPV in south India. Our study also has several strengths, which include a large sample size, highly trained interviewers hired from the community who were able to elicit very sensitive personal information, and standardized measures for violence that were developed for the WHO multi-country domestic violence study, making data more comparable to other studies.

## Conclusion

The findings suggest that IPPV is highly prevalent in this setting and that additional interventions are needed. At the same time, the data also suggest that some caution is warranted with regard to income generation programs aimed at reducing IPPV. Additionally, the findings support the need to better understand the interaction of gendered social roles on IPPV within families.

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**Table 1**  
Socioeconomic and Behavioral Characteristics and Association With Intimate Partner Physical Violence Among Young Married Women in Mysore, India (N = 898)

Characteristic	Total		Intimate Partner Physical Violence		P
	N	Percentage	N	Percentage	
Age category (years)					.156
15–20	57	6.4	22	38.6	
21–25	367	40.9	181	49.3	
26–30	474	52.8	246	51.9	
Years of education					.005
0–7	512	57.0	277	54.1	
>7	386	43.0	172	44.6	
Religion					.75
Hindu	621	69.2	315	50.7	
Muslim	258	28.7	124	48.1	
Christian	19	2.1	10	52.6	
Occupation					.04
Unskilled	848	94.4	431	50.8	
Skilled	50	5.6	18	36	
Have children					
Yes	759	84.5	390	51.4	.05
No	139	15.9	59	42.5	
Contribution to the household income					.001
None	643	71.6	304	47.3	
Some	151	16.8	103	68.2	
All	104	11.6	42	40.3	
Age at marriage (years)					.001
18	676	75.3	360	53.3	
>18	222	24.7	89	40.1	
Oral sex in lifetime					.198
Yes	40	4.46	24	60.0	

Characteristic	Total		Intimate Partner Physical Violence		P
	N	Percentage	N	Percentage	
No	857	95.5	425	49.6	
Anal sex in lifetime					.003
Yes	55	6.12	38	69.1	
No	843	93.8	411	48.8	
Sex with partner who was under the influence of alcohol					.001
Yes	360	40.1	223	61.9	
No	537	59.9	226	42.1	
Reported sexual violence					.001
Yes	325	36.2	246	75.7	
No	573	63.8	203	35.4	

Table 2

Partner Characteristics Reported by Study Participants and Their Association With Physical Violence Among Young Married Women in Mysore, India (N = 898)

Characteristic	Total		Intimate Partner Physical Violence		P
	N	Percentage	N	Percentage	
Years of education of husband					.046
0	289	32.2	150	51.9	
1-7	224	24.9	124	55.4	
>7	385	42.9	175	45.5	
Occupation of the husband					.13
Unskilled	406	45.2	199	49.0	
Skilled	391	43.5	190	48.6	
Skilled—drivers	101	11.3	60	59.4	
Know partner before having sex with him					.02
Same day	30	3.4	6	20.0	
1 week	28	3.1	10	35.7	
2 weeks	57	6.4	29	6.5	
1 month	199	22.2	105	52.7	
3 months	208	23.2	104	50.0	
6 months	117	13.1	63	53.8	
1 year	72	8.0	32	44.4	
>1 year	184	20.6	99	53.8	
Partner has other sex partners					.004
Yes	69	7.7	46	66.7	
No	829	92.3	403	48.6	
Partner drinks alcohol					.001
Yes	391	43.5	245	62.7	
No	507	56.5	204	40.2	
Partner smokes cigarettes					.001
Yes	435	48.4	251	57.7	
No	463	51.6	198	42.8	
Partner drinking when he quarrels with you					.001

Characteristic	Total		Intimate Partner Physical Violence		P
	N	Percentage	N	Percentage	
Never	634	70.8	260	41.0	
Rarely	83	9.3	56	67.5	
Occasionally	37	4.1	31	83.8	
More often than not	9	1.0	9	100	
Most of the time	82	9.2	48	58.5	
All the time	50	5.6	44	88	
Partner under the influence of alcohol when physically violent					.001
Yes	140	15.6	134	95.7	
No	758	84.4	315	41.6	

**Table 3**

Report of Physical Violence by Young Married Women in Mysore, India (N = 897)

Characteristic	Intimate Partner Physical Violence			
	Frequency		During Pregnancy <sup>a</sup>	
	N	Percentage	N	Percentage
<i>In the past year, has your spouse</i>				
Slapped you				
Yes	400	44.6	32	3.6
No	497	55.4	865	96.4
Hit you				
Yes	321	35.8	31	3.5
No	576	64.2	866	96.5
Kicked you				
Yes	291	32.4	32	3.6
No	606	67.6	865	96
Beat you				
Yes	375	41.8	33	3.7
No	522	58.2	864	96.3
Pushed or shoved you				
Yes	131	14.6	27	3.0
No	766	85.4	870	97
Pulled your hair or dragged you by the hair				
Yes	141	15.7	27	3.0
No	756	84.3	870	97
Slammed you against something hard				
Yes	122	13.6	20	2
No	775	86.4	877	98
Smothered, choked, or attempted or actually strangled you				
Yes	93	10.4	14	1.6
No	804	89.6	883	98.4
Thrown something at you that did or could hurt you				

Intimate Partner Physical Violence					
Characteristic	Frequency		During Pregnancy <sup>a</sup>		Percentage
	N	Percentage	N	Percentage	
Yes	62	6.9	13	1.4	1.4
No	835	93.1	884	98.6	98.6
Burned you with something hot					
Yes	7	0.8	2	0.2	0.2
No	890	99.2	895	99.8	99.8
Put dangerous substance on you that could hurt you (acid or kerosene)					
Yes	4	0.5	1	0.1	0.1
No	893	99.5	896	99.9	99.9
Used a weapon on you					
Yes	6	0.7	1	0.1	0.1
No	891	99.3	896	99.9	99.9
Any report of physical violence					
Yes	449	50.0	51	5.7	5.7
No	449	50.0	935	94.3	94.3
Was your spouse under the influence of alcohol					
Yes	140	15.6	—	—	—
No	757	84.4	—	—	—

<sup>a</sup> Intimate partner physical violence experienced at any time during pregnancy.



Table 4

Unadjusted and Adjusted Multivariable Logistic Regression Models for the Relationship of Select Characteristics to Intimate Partner Physical Violence in Mysore, India (N = 898)

Characteristic	Intimate Partner Physical Violence	
	Unadjusted OR <sup>a</sup> 95% CI	Adjusted <sup>a</sup> aOR <sup>b</sup> 95% CI
Years of education		
0	1.00	1.00
1-7	0.91 0.64-1.28	0.96 0.64-1.43
>7	0.65 0.47-0.89	0.77 0.52-1.16
Occupation		
Unskilled	1.00	1.00
Skilled	0.54 0.30-0.98	0.40 0.19-0.82
Have children		
Yes	1.43 0.99-2.06	1.05 0.69-1.59
No	1.00	1.00
Contribution to the household income		
None	1.00	1.00
Some	2.39 1.64-3.48	2.25 1.45-3.50
All of it	0.76 0.49-1.15	0.82 0.51-1.35
Age at marriage (years)		
18	1.70 1.25-2.32	1.56 1.08-2.27
>18	1.00	1.00
Anal sex in lifetime		
Yes	2.35 1.30-4.23	1.90 0.97-3.72
No	1.00	1.00
Years of education of partner		
0	1.00	1.00
1-7	1.15 0.81-1.63	0.98 0.65-1.47
>7	0.77 0.57-1.04	1.00 0.69-1.47
Partner has other sex partners		

Intimate Partner Physical Violence				
Characteristic	Unadjusted		Adjusted <sup>a</sup>	
	OR <sup>a</sup>	95% CI	aOR <sup>b</sup>	95% CI
Yes	2.11	1.26–3.55	1.48	0.83–2.65
No	1.00		1.00	
Partner drinks alcohol				
Yes	2.49	1.90–3.27	1.90	1.39–2.60
No	1.00		1.00	
Partner smokes cigarettes				
Yes	1.82	1.40–2.37	1.37	1.00–1.87
No	1.00		1.00	
Reported sexual violence				
Yes	5.68	4.18–7.70	4.72	3.41–6.53
No	1.00		1.00	

Abbreviations: OR, odds ratio; CI, confidence interval.

<sup>a</sup>Unadjusted odds ratios represent the independent association of each variable to intimate partner physical violence.

<sup>b</sup>Adjusted odds ratios are from a multivariable logistic regression model that includes all the variables shown in the table.