

Domestic Violence in Northern India

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This study examined the prevalence and characteristics of wife abuse as reported by nearly 6,700 married men living in five districts of northern India during 1995–1996. In addition, associations between wife abuse and sociodemographic factors were investigated to enable two theoretical/conceptual perspectives regarding abuse to be evaluated: that abuse is more common among families under stress and among more “private” families. The district-specific percentages of men who reported physically abusing their wives ranged from 18% to 45%, with 18–40% of the men in each district having had nonconsensual sex with their wives and 4–9% having physically forced their wives to have sex. The authors used logistic regression analyses to control for a variety of sociodemographic variables and found positive associations between wife abuse and stress-related factors, including the husband having a low educational level, the couple living in poverty, the husband being young when he first lived with his wife, and the couple having multiple children. Contrariwise, there was no strong empirical support for the idea that wife abuse may be more common in more “private” families. *Am J Epidemiol* 1999;150:417–26.

battered women; domestic violence; risk factors; socioeconomic factors; spouse abuse; violence; women's health; wounds and injuries

Over the past two decades, there has been growing recognition of the multitude of health threats, including death, physical injury, and mental trauma, posed by violence against women (1). Since the most common perpetrators of this violence are the female victims' husbands or boyfriends, researchers have begun to estimate the prevalence of wife abuse in many countries (2).

Although several case studies and research reports have focused on wife abuse in India (3–11), few community-based surveys have examined the extent of this abuse or have documented the specific types of behaviors that occur during abusive episodes. One investigation that did estimate the prevalence of abuse in an Indian community studied 109 married couples who resided in a small rural village in the Jullundur district of Punjab (12). Interviews with the husbands found that 75 percent of the lower-caste men reported beating their wives, as did 22 percent of the higher-caste men; approximately 3 percent of the men reported that their

wives required medical treatment for injuries sustained during violent episodes. In a somewhat similar study, 163 women of childbearing age who resided in three southern rural villages of Karnataka, India, were interviewed; 22 percent reported being physically assaulted by their husbands (13). Even though these studies had some methodological limitations (e.g., relatively small sample sizes, restriction to small geographic areas, no report of sexual abuse), the findings suggest that when taken together with past anecdotal and other reports, wife abuse may be a widespread and important health concern in India deserving of further attention.

To extend the past research regarding the prevalence of wife abuse, the first part of this study was descriptive, examining the extent of wife abuse in a relatively larger geographic area of India (specifically, five districts in the northern state of Uttar Pradesh) by using the reports of a representative sample of nearly 6,700 married men. Also described were the frequency of abusive episodes, the behavioral characteristics of abusive episodes, and the resultant medical treatment for injuries sustained during abusive episodes.

Although no one theoretical approach has been accepted uniformly as an all-encompassing explanatory paradigm for wife abuse (14–16), the family violence perspective (17) includes several ideas about how abuse may be related to the social organization and structure of the family as well as to the characteristics of individual families and family members. One of these ideas is that highly stressed families are more

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Abbreviations: CI, confidence interval; OR, odds ratio; PERFORM, Program Evaluation Review for Organizational Resource Management.

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prone than less stressed families to all types of family violence, including wife abuse. Thus, several stress-related sociodemographic variables would be expected to be predictive of wife abuse, including having a low level of education, which may impede earning potential; living in poverty; having multiple children; and being very young and inexperienced when entering into a marriage.

A second idea within the family violence perspective concerns the relatively "private nature" of the modern family (17). This idea asserts that the process of development and urbanization has resulted in the family changing from a more "public institution" (in which extended kinship groups lived in relatively open communal shelters) to a more "private institution" (in which nuclear families live in singular housing units such as apartments and houses). Furthermore, as the nature of the family becomes more private, the family may become more insulated from social control and therefore at potentially greater risk for wife abuse. Thus, several sociodemographic factors, such as small household size, lack of members of the extended family (such as in-laws) living in the household, and urban residence, would be expected to be associated positively with wife abuse.

In light of these theories, the second part of this research was analytical, examining potential associations between wife abuse and several of the sociodemographic variables that have been postulated as risk factors. One set of these variables is relevant to the idea that more highly stressed families are at increased risk for abuse, and the following variables were included: the husband having a low level of education, the family being poor, the husband being young when first married and cohabiting with his wife, and the couple having numerous children. The second set of these variables is pertinent to the idea that wife abuse is more likely to occur in more "private" families; the following variables were included: small household size, lack of extended family members (in-laws in particular) living in the household, and urban residence. In addition, this study examined the association between wife abuse and the duration of the couple's marriage, since marriage duration may serve as a measure of a woman's length of time at risk for wife abuse.

MATERIALS AND METHODS

Study setting and sample

This research was conducted in the northern state of Uttar Pradesh, India, the most populous and fastest growing Indian state. The 1991 population was more than 139 million. Uttar Pradesh is also one of the least developed states in India, with a high proportion of

rural residents (80 percent) and a low literacy rate among persons aged 7 years or older (42 percent) (18). However, the sociodemographic characteristics of the populations vary considerably in the five geographic regions of Uttar Pradesh (Hill, Western, Central, Eastern, and Bundelkhand regions).

This investigation was part of the male reproductive health survey supplement of the Program Evaluation Review for Organizational Resource Management (PERFORM) Systems of Indicators Survey (19), a project conducted from November 1995 through February 1996. The sampling frame for the male survey comprised all married men between the ages of 15 and 65 years living in households in approximately 400 rural villages and urban towns of five districts in each of the five different regions of Uttar Pradesh (specifically, the districts of Aligarh, Bandha, Gonda, Kanpur Nagar, and Nainital; refer to figure 1). A systematic multistage sampling strategy was used (20). The rural villages to be studied were selected by first dividing all villages in the five study districts into several strata on the basis of population size. Next, systematic random sampling was used to choose a number of villages from each stratum, the number being proportional to the size of the study district. Finally, study households were selected from each of the chosen villages by using systematic random sampling. A somewhat similar procedure was used to select the urban households for study.

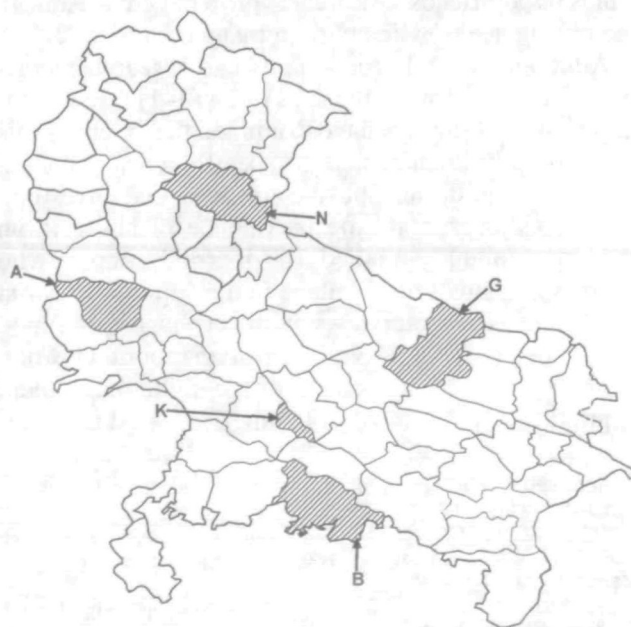


FIGURE 1. The five study districts of the northern state of Uttar Pradesh, India, in which married men were surveyed for the Program Evaluation Review for Organizational Resource Management (PERFORM) study of male reproductive health (1995–1996); A, Aligarh; B, Bandha; G, Gonda; K, Kanpur Nagar; N, Nainital.

A total of 8,296 eligible men were enumerated in the household listings for the PERFORM Survey. Eighty-three percent ($n = 6,902$) agreed to and did complete the full male interview. Men not interviewed included those who refused to participate (approximately 1 percent), those who were away from their households at the time of the survey (approximately 8 percent), and those whom the survey staff were unable to contact after at least three visits to their households (approximately 8 percent). Of the 6,902 men interviewed, 6,695 (97 percent) met the conditions of living with their wives and having complete information on all of the study variables reported here. Therefore, these 6,695 men were the focus of this report.

Assessment

Trained male interviewers, who were from Uttar Pradesh but were not necessarily residents of the survey villages and towns, administered a structured 20-minute interview to study participants. Interviews took place in a private area in or outside the men's homes. Great care was taken to establish a rapport with the respondents prior to interview administration, and interviewers stressed that honest answers were needed to potentially sensitive questions to gain insight into the health and behavior of the people in the state. Participants were assured of the confidentiality of their responses.

Interviewers asked about a wide range of health-related factors, including wife abuse. Physical abuse was assessed by asking the men if they had ever hit, slapped, kicked, or otherwise physically hurt their wives. Any man who reported physically abusing his wife in this manner was asked about the frequency of abusive episodes, the types of violent behaviors that he engaged in during these episodes, his wife's behavior during these episodes, whether his wife was pregnant during any episode, and whether his wife ever received medical treatment for injuries sustained as a result of this abuse. Sexual abuse was assessed by asking each man if he had ever engaged in nonconsensual sex with his wife (i.e., if he had had sexual activities with his wife when she was unwilling) and if he had ever physically forced his nonconsenting wife to have sex.

Interviewers also collected data concerning several sociodemographic characteristics of the men and their families. Included were the men's educational levels ("lower" if the man had 5 or fewer years and "higher" if he had more than 5 years of schooling), the age at which the husband had first lived with his wife ("younger" if the man was less than age 20 years and "older" if he was age 20 years or older when this occurred), the number of children born to the couple ("more" if the couple had multiple children and "less"

if they had one or no children), the household composition of the family (including the number of persons living in the household and whether the husband's or wife's parents were included in the household), the urban/rural status of the family, and the duration of the couple's marriage ("short" if the couple had been married 5 years or less and "long" if they had been married for more than 5 years). In addition, the socioeconomic status of the family was assessed by asking respondents whether their households included any of six particular types of possessions (namely, a clock, a fan, a radio, a television, a bicycle, and a motored vehicle (motorbike or car)). For analysis purposes, families were classified as "very poor" if they owned none or only one of these possessions and as "less poor" if they owned two or more of these possessions.

Data analysis

The prevalence of men who reported physically and sexually abusive behaviors was computed for each of the five geographic districts, as were the corresponding 95 percent confidence intervals. Odds ratios and 95 percent confidence intervals were used to examine potential associations between the dichotomous physical abuse variable and the two dichotomous sexual abuse variables (nonconsensual sex and physically forced sex).

Additional analyses were conducted that focused exclusively on those men who reported physically abusing their wives. Descriptive statistics were used to examine the frequency of violent episodes and some characteristics of the violent episodes, including the repeated nature of episodes, whether abuse occurred in the past year, whether the wife was pregnant during any abusive episode, the types of behaviors exhibited by the husbands and wives during abusive episodes, and whether wives received medical treatment for injuries sustained during abusive episodes.

For all of the men, associations between the sociodemographic variables and physical abuse were examined by using both bivariate and multivariate procedures. For each of the geographic districts, odds ratios and 95 percent confidence intervals (which took the sampling procedures into account but did not adjust for potentially confounding variables) were used to examine associations between the dichotomous physical abuse variable and the dichotomous variables indexing the men's sociodemographic characteristics (specifically, educational level, poverty status, age at which the husband first lived with his wife, number of children born to the couple, household size, parents-in-law residing in the household, urban/rural residence, and duration of the marriage). In addition, for each geographic district, logistic regression analysis was used

to model the dichotomous abuse variable by all of the aforementioned socioeconomic predictor variables to examine the associations between each of these predictor variables and abuse while controlling for all of the other sociodemographic factors. All study analyses were performed by using the SUDAAN software package (21) so that the complex sampling scheme could be considered appropriately.

Institutional Review Board approval

The main PERFORM Survey evaluation protocol was reviewed by the Committee on Human Subjects Institutional Review Board of the School of Public Health at the University of North Carolina at Chapel Hill. This committee approved the study protocol.

RESULTS

Physical and sexual abuse

The extent of physical and sexual wife abuse varied considerably across the five geographic districts (table 1). The prevalence of physical abuse reported by the men ranged from a low of 18 percent to a high of 45 percent. Similarly, the prevalence of sexual abuse varied across the districts, from 18 to 40 percent for nonconsensual sex and from 4 to 9 percent for physically forced sex.

In every district, physical and sexual abuse were significantly and positively associated. Compared with men who did not report physically abusing their wives, men who did report physically abusing their wives were significantly more likely to report having had nonconsensual sex with their wives (Aligarh: odds ratio (OR) = 2.07, 95 percent confidence interval (CI): 1.58, 2.69; Bandha: OR = 2.97, 95 percent CI: 2.30, 3.83; Gonda: OR = 2.45, 95 percent CI: 1.84, 3.25; Kanpur Nagar: OR = 2.64, 95 percent CI: 1.89, 3.70; and Nainital: OR = 2.43, 95 percent CI: 1.35, 4.38) and were significantly more likely to report having physically forced their wives to have sex (Aligarh: OR = 3.36, 95 percent CI: 1.92, 5.86; Bandha: OR = 3.21, 95 percent CI: 2.13, 4.84; Gonda: OR = 2.31, 95 percent CI: 1.50, 3.54; Kanpur Nagar: OR = 5.73, 95 percent CI: 3.22, 10.21; and Nainital: OR = 3.55, 95 percent CI: 1.80, 6.98).

Characteristics of abusive episodes

To examine specific aspects of wife abuse, additional analyses focused exclusively on the 1,990 men who reported physically abusing their wives. The majority of abusive men in each district reported multiple violent episodes, and the district-specific proportions ranged from 62.5 to 91.0 percent (table 2). Furthermore, from 46.6 to 74.3 percent of abusive men reported that a violent episode had occurred within the past year. From 5.4 to 13.0 percent of the abusive men in the districts reported perpetrating violence against their wives during pregnancy.

Physically abusive husbands reported engaging in various types of behaviors during violent episodes, with the distribution of each behavior varying considerably across districts. However, in general, the most commonly reported male behaviors included shouting/yelling at wives (32.5–93.6 percent) and slapping/pushing of wives (46.5–76.9 percent). Less commonly reported behaviors included punching/kicking of wives (8.1–31.5 percent) and using a weapon or an object (such as a stick) against wives (4.6–9.5 percent). From 19.9 to 85.7 percent of the abusive men reported engaging in multiple types of violent behaviors during the last abusive episode.

Although the men's reports of their wives' behaviors during violent episodes also varied across the districts, the most commonly reported female behaviors generally included crying (49.0–89.9 percent) and shouting/yelling at husbands (7.2–42.3 percent). Infrequently reported behaviors of the wives included running away from the house (3.5–9.6 percent) and slapping/hitting their husbands (0.3–6.3 percent).

Treatment for injuries

Despite the men's reports concerning the pervasiveness of wife abuse, the repeated nature of abuse, and the wide range of violent behaviors directed against their wives, men seldom reported that their wives received medical treatment for injuries sustained during abusive episodes. The proportion of abused wives seen in treatment for abuse-related injuries ranged from approximately 1 to 3 percent across the districts (specifically, 2.4 percent in Aligarh, 2.2 percent in

TABLE 1. District-specific estimates of the prevalence of wife abuse according to the reports of 6,695 married men surveyed in five geographic districts of the state of Uttar Pradesh, India, 1995–1996

Abuse type	Aligarh	Bandha	Gonda	Kanpur Nagar	Nainital
Physical abuse	0.28 (0.25, 0.31)*	0.45 (0.41, 0.49)	0.31 (0.28, 0.35)	0.21 (0.18, 0.24)	0.18 (0.13, 0.23)
Sexual abuse					
Nonconsensual sex	0.24 (0.21, 0.27)	0.40 (0.36, 0.44)	0.26 (0.23, 0.29)	0.28 (0.25, 0.30)	0.18 (0.13, 0.23)
Physically forced sex	0.07 (0.05, 0.09)	0.07 (0.05, 0.09)	0.09 (0.07, 0.12)	0.04 (0.02, 0.05)	0.04 (0.02, 0.06)

* Numbers in parentheses, 95% confidence intervals.

TABLE 2. District-specific frequencies (%) and behavioral characteristics of abusive episodes of the 1,990 married men who acknowledged physically abusing their wives, as reported on the survey conducted in five geographic districts of the state of Uttar Pradesh, India, 1995–1996

Characteristic	Aligarh (n = 323)	Bandha (n = 765)	Gonda (n = 369)	Kanpur Nagar (n = 256)	Nainital (n = 277)
Repeated violent episodes	83.1	91.0	83.8	70.4	62.5
Physical violence during the past year	55.5	74.3	63.5	46.6	59.1
Wife pregnant during an abusive episode	13.0	7.4	8.1	6.8	5.4
Husband's behavior during the last episode					
Shouted/yelled at wife	35.7	83.9	93.6	32.5	64.1
Slapped/pushed wife	47.5	46.5	76.9	55.1	60.5
Punched/kicked wife	31.5	28.8	29.0	27.8	8.1
Abused wife with weapon/object	6.3	7.7	9.5	5.1	4.6
Some other type of violent behavior	0.6	0.5	0.5	2.8	3.9
Multiple types of violent behavior	19.9	58.1	85.7	24.1	37.9
Wife's behavior during the last episode					
Cried	59.9	89.9	78.0	49.0	70.5
Shouted/yelled at husband	11.3	39.8	42.3	7.2	30.9
Ran away from house	3.5	4.5	4.3	7.7	9.6
Slapped/hit husband	0.3	6.3	0.7	1.4	2.5

Bandha, 3.0 percent in Gonda, 1.7 percent in Kanpur Nagar, and 1.2 percent in Nainital).

Bivariate associations

Analysis of the bivariate associations between the men's reports of wife abuse and each of the socio-demographic factors pertinent to the idea that various types of stress may be important risk factors for wife abuse found general support for this notion (table 3). Low levels of education (≤ 5 years) were common among the men and ranged from 34 to 66 percent across the districts. In every district, greater proportions of abusive men than nonabusive men had low levels of education, and the district-specific odds ratios for four of the five districts reached statistical significance. The percentages of men who lived in extreme poverty (those who had fewer than two of the possessions used to assess socioeconomic status) ranged from 13 to 47 percent across the five districts. In each district, greater proportions of abusive men compared with nonabusive men lived in extreme poverty, with the odds ratios for extreme poverty and abuse being positive for all five districts but reaching statistical significance for only three of the five districts. From 22 to 53 percent of the men in the five districts started living with their wives at a younger age (< 20 years). In all five districts, abusive men were more likely than nonabusive men to cohabit with their wives at a younger age. The odds ratios were positive, but only one reached statistical significance. More than one child had been born to 73 to 85 percent of the men's families in the various districts. Abusive men were

more likely than nonabusive men to have more than one child, and three of the district-specific associations were statistically significant.

Examination of the bivariate associations between wife abuse and the sociodemographic factors pertinent to the idea that abuse may be more common in more "private" families did not find strong support for this notion (table 3). The proportion of men living in smaller households (those with five or fewer persons) ranged from approximately 22 to 43 percent across the five geographic districts. In each of the five districts, the positive associations between small household size and abuse were of a limited magnitude, and none of these associations was statistically significant. Because of the traditional after-marriage pattern of residence in India (a new bride often moves in with the groom and his parents), it was not surprising to find that in many of the households (from approximately 30 to 52 percent, depending on the district), the couple lived in the same residence as the husbands' parents. However, in very few households (2 percent or less across the districts) did the couple live in the same residence as the wife's parents. In each district, somewhat greater proportions of abusive men than nonabusive men lived in households without their parents; although small positive associations were found between the husband's parents being absent from the household and wife abuse, in only one of the five districts was this association statistically significant. No consistent pattern was evidenced when the district-specific associations between wife abuse and the absence of the wife's parents in the household were examined; however, clear evaluation of this potential

TABLE 3. District-specific sociodemographic characteristics (%) of physically abusive and nonabusive men according to the reports of 6,695 married men surveyed in five geographic districts of the state of Uttar Pradesh, India, 1995–1996

Characteristic	Aligarh			Bandha			Gonda			Kanpur Nagar			Nainital		
	Abuse (n = 323)	No abuse (n = 854)	OR† (95% CI)‡	Abuse (n = 765)	No abuse (n = 952)	OR (95% CI)‡	Abuse (n = 369)	No abuse (n = 833)	OR (95% CI)‡	Abuse (n = 256)	No abuse (n = 926)	OR (95% CI)‡	Abuse (n = 277)	No abuse (n = 1,140)	OR (95% CI)‡
Education			2.22 (1.59, 3.03)*			2.33 (1.75, 3.03)*			1.30 (0.96, 1.75)			2.13 (1.39, 3.23)*			3.30 (1.54, 5.88)*
≤5 years	55.2	35.9		59.5	38.8		70.3	64.5		47.4	29.9		66.0	39.4	
>5 years	44.8	64.1		40.5	61.2		29.7	35.5		52.6	70.1		34.0	60.6	
Poverty status§			1.45 (1.04, 2.02)*			1.82 (1.32, 2.50)*			1.55 (1.12, 2.17)*			1.45 (0.80, 2.65)			1.78 (0.97, 3.25)
Poor	29.0	22.0		49.0	34.6		55.0	44.0		16.9	12.3		24.5	15.4	
Very poor	71.0	78.0		51.0	65.4		45.0	56.0		83.1	87.7		75.5	84.6	
Age first lived with wife			1.20 (0.91, 1.56)			1.15 (0.94, 1.40)			1.24 (0.95, 1.61)			1.76 (1.23, 2.52)*			1.23 (0.80, 1.88)
<20 years	39.6	35.4		44.0	40.7		56.8	51.4		35.4	23.7		24.6	21.0	
≥20 years	60.4	64.6		56.0	59.3		43.2	48.6		64.6	76.3		75.4	79.0	
No. of children born			1.41 (0.97, 2.04)			2.08 (1.67, 2.56)*			1.54 (1.10, 2.17)*			1.12 (0.77, 1.61)			2.08 (1.11, 4.00)*
>1	86.7	82.3		80.8	66.9		82.1	74.8		84.0	82.5		91.6	83.8	
≤1	13.3	17.7		19.2	33.1		17.9	25.2		16.0	17.5		8.4	16.2	
Household size			1.22 (0.86, 1.71)			1.21 (0.90, 1.61)			1.36 (0.95, 1.94)			1.10 (0.77, 1.56)			1.07 (0.67, 1.71)
≤5 persons	34.4	30.2		23.4	20.2		30.3	24.2		44.4	42.1		38.3	36.7	
>5 persons	65.6	69.8		76.6	79.8		69.7	75.8		55.6	57.9		61.7	63.3	
Husband's parents			1.08 (0.81, 1.45)			1.52 (1.24, 1.87)*			1.05 (0.80, 1.39)			1.17 (0.84, 1.63)			1.28 (0.84, 1.94)
Not in household	60.6	58.7		52.8	42.1		56.1	54.8		72.8	69.6		67.5	61.9	
In household	39.4	41.3		47.2	57.9		43.9	45.2		27.2	30.4		32.5	38.1	
Wife's parents			1.24 (0.48, 3.25)			0.99 (0.33, 2.98)			0.35 (0.10, 1.20)			2.95 (0.39, 22.37)			
Not in household	98.2	97.8		99.2	99.2		98.2	99.4		99.5	98.7		100.0	99.1	
In household	1.8	2.2		0.8	0.8		1.8	0.6		0.5	1.3		0.0	0.9	
Residence location			0.52 (0.22, 1.23)			0.75 (0.32, 1.75)			0.75 (0.33, 1.69)			0.99 (0.42, 2.38)			1.04 (0.43, 2.56)
Urban	12.7	21.8		5.3	7.0		1.6	2.1		81.2	81.3		25.2	24.4	
Rural	87.3	78.2		94.7	93.0		98.4	97.9		18.8	18.7		74.8	75.6	
Duration of marriage			1.43 (1.00, 2.00)			3.13 (2.44, 3.85)*			1.49 (1.05, 2.13)*			1.49 (0.95, 2.33)			2.38 (1.27, 4.55)*
>5 years	85.4	80.5		87.4	69.3		83.8	77.7		88.4	83.6		91.0	80.9	
≤5 years	14.6	19.5		12.6	30.7		16.2	22.3		11.6	16.4		9.0	19.1	

* $p < 0.05$.

† OR, odds ratio; CI, confidence interval.

‡ Bivariate ORs and 95% CIs were adjusted for the sampling procedures but not for potentially confounding variables.

§ Very poor was defined as having less than two possessions; poor was defined as having two or more possessions.

relation was hampered by the fact that so few couples lived with the wife's family. Approximately 25 percent of the total sample lived in an urban area. In the majority of the districts studied, somewhat smaller proportions of abusive men than nonabusive men lived in an urban setting; however, no statistically significant associations were found between urban residency and abuse.

When the women's potential duration of exposure to wife abuse (namely, the duration of couples' marriages) was considered, between 78 and 85 percent of the couples in each of the districts had been married for at least 5 years. Greater proportions of abusive men than nonabusive men were part of this longer-marriage group (table 3). Positive associations between abuse and a longer marriage were found for all five districts and were statistically significant for three of the districts.

Logistic regression modeling

Consistent with the bivariate findings, the district-specific logistic regression analyses that modeled physical abuse as a function of all of the socioeconomic variables found some support for the notion that wife abuse is more common among highly stressed families, but no evidence was found for the idea that wife abuse is more common among "private" families (table 4). After control for all other variables in the model, the associations between abuse and the husband having a low level of education ranged from 1.12 to 2.76 across the five districts and were statistically significant in four of the five districts. The logistic regression analyses found associations between abuse

and extreme poverty that were of a somewhat lesser magnitude, ranging between 1.06 and 1.45 across the five districts, and were statistically significant in two of the five districts. In addition, the logistic regression models found significant positive associations in one district between abuse and the husband living with his wife at a young age and in another district between abuse and having more children. In contrast, no statistically significant associations were found between wife abuse and any of the three variables related to the idea that wife abuse may be more likely among "private" families: smaller household size, husband's parents absent from the household, and urban residence. Finally, although in each district there was a positive association between being in a marriage of a longer duration and abuse, only one of these associations reached statistical significance.

DISCUSSION

This research is unique because it is probably the first large-scale investigation to study wife abuse in northern India by using representative samples of men. The extent of physical abuse found in this study (specifically, district-specific prevalences of 18–45 percent) is in line with the findings of previous smaller-scale investigations in India (12, 13), suggesting that physical abuse of wives in India is as common as it is in numerous other countries, including Antigua, Barbados, Canada, Kenya, Korea, Mexico, New Zealand, Norway, and the United States (22). Furthermore, similar to previous findings concerning domestic violence in India (11), the men in this study

TABLE 4. Results of the district-specific logistic regression analyses† examining associations between sociodemographic characteristics and physical abuse according to the reports of 6,695 married men surveyed in five geographic districts of the state of Uttar Pradesh, India, 1995–1996

Characteristic	Allgarh	Bandha	Gonda	Kanpur Nagar	Nainital
	OR‡ (95% CI)§	OR (95% CI)§	OR (95% CI)§	OR (95% CI)§	OR (95% CI)§
Lower education (≤ 5 vs. > 5 years)	2.09 (1.54, 2.85)*	1.90 (1.52, 2.37)*	1.12 (0.81, 1.56)	2.03 (1.41, 2.92)*	2.76 (1.25, 6.06)*
Very poor (< 2 vs. ≥ 2 possessions)	1.06 (0.74, 1.53)	1.39 (1.03, 1.87)*	1.45 (1.05, 2.00)*	1.14 (0.67, 1.95)	1.32 (0.76, 2.29)
Younger when first lived with wife (age < 20 vs. ≥ 20 years)	1.10 (0.85, 1.43)	1.06 (0.86, 1.31)	1.26 (0.96, 1.67)	1.64 (1.12, 2.41)*	1.14 (0.72, 1.83)
More children born (> 1 vs. ≤ 1)	1.40 (0.85, 2.29)	1.30 (1.01, 1.68)*	1.55 (0.91, 2.64)	0.78 (0.49, 1.24)	1.36 (0.63, 2.92)
Smaller household size (≤ 5 vs. > 5)	1.37 (0.98, 1.91)	1.11 (0.85, 1.45)	1.38 (0.99, 1.92)	1.15 (0.84, 1.56)	1.15 (0.86, 1.54)
Husband's parents absent from household (absent vs. present)	0.75 (0.52, 1.08)	0.95 (0.77, 1.18)	0.82 (0.61, 1.11)	0.91 (0.62, 1.32)	0.92 (0.63, 1.34)
Urban residence (urban vs. rural)	0.62 (0.36, 1.10)	0.92 (0.56, 1.52)	0.93 (0.61, 1.40)	1.17 (0.76, 1.80)	1.18 (0.71, 1.95)
Longer marriage (> 5 vs. ≤ 5 years)	1.23 (0.80, 1.89)	2.33 (1.76, 3.09)*	1.10 (0.68, 1.79)	1.54 (0.88, 2.67)	1.75 (0.95, 3.21)

* $p < 0.05$.

† The following coding scheme was used in the logistic regression analyses: physical abuse (1 if yes, 0 otherwise); lower education (1 if ≤ 5 years of education, 0 otherwise); very poor (1 if < 2 possessions, 0 otherwise); started living with wife at younger age (1 if age < 20 years, 0 otherwise); more children born (1 if > 1 child, 0 otherwise); smaller household size (1 if ≤ 5 persons, 0 otherwise); husband's parents not in household (1 if parents absent, 0 otherwise); urban residence (1 if urban, 0 otherwise); and longer marriage (1 if > 5 years, 0 otherwise).

‡ OR, odds ratio; CI, confidence interval.

§ Adjusted ORs and 95% CIs from the logistic regression analyses of physical abuse.

reported asymmetry in the violent behaviors perpetrated by the couple during abusive episodes, with the husbands being much more likely than their wives to commit violence toward their spouses.

This study also found that husbands were very likely to report sexually abusing their wives, including having nonconsensual sex and physically forced sex. However, caution is urged in interpreting these findings, since relatively little is known about cross-cultural/cross-country variation in social norms regarding the sexual control of one's spouse. The meaning of the behaviors reported in this study (such as a husband having sex with his wife when she is unwilling) may not be perceived by either partner as being inappropriate or wrongful (23). Nevertheless, it is likely that the most severe of these violent behaviors, regardless of their cultural meaning, may result in adverse health outcomes for the women, including physical injury and emotional trauma.

The prevalence estimates generated from this study are based solely on men's reports of violence, which may underestimate (or even overestimate) the true extent of these behaviors. Almost all research concerning domestic violence outside of the United States has relied on women's rather than men's reports of their experiences (22). However, a few international studies have examined men's reports of physical violence against their female partners and have found varying prevalence estimates; for example, approximately 10 percent of the men in a Cambodia sample reported perpetrating physical violence toward their partners (24), as did 10 percent of a group of Arab-Palestinian men living in Israel (25) and 40 percent of a sample of men in Uganda (26). The differences in these estimates may reflect differences in not only the true extent of wife abuse in various cultures and countries but also the methodological approaches used to operationalize the construct of violence against wives. Since few studies have asked both partners of a couple about their domestic violence experiences, and those that have asked have found various degrees of consensus (27, 28), it is impossible to know whether asking the wives of the husbands in this study about domestic violence would have resulted in different prevalence estimates. Future investigations pertaining to domestic violence might benefit from the use of several sources of information, for example, both the husbands' and wives' reports of violent behaviors or records concerning domestic assaults.

The prevalence estimates obtained from this study were based on definitions of wife abuse that included physical and sexual abuse but not other important types of wife abuse, such as emotional or economic abuse. It is likely that using a broader definition of wife abuse would have resulted in higher prevalence estimates.

Although in India, as in other countries, domestic violence may occur in families of all social classes, educational levels, and family structures (9), the study findings presented here support the idea that factors that enhance the stress levels of families also enhance the probability of wife abuse. Some of these stress-related factors include poverty, low educational levels, being young when first cohabiting, and having multiple children. It is noteworthy that previous research in a small, poor rural community in southern India also found that extremely low levels of income were predictive of wife abuse (13). Contrariwise, this study did not find support for the idea that wife abuse may be more common in more "private" families, including those of a small household size, those who live apart from their in-laws, or those who live in an urban setting. These results should be interpreted in light of the restricted number of variables available to operationalize the potentially complex concept of "the private nature of the family." Future studies would likely benefit from the addition of multiple variables pertinent to this concept, such as refined measures of social isolation.

Despite these study limitations, these research findings may inform both practice and policy making among those concerned with health and social issues in India. For example, since severe and repeated wife abuse was commonly reported by husbands while medical treatment for abuse-related injuries was seldom reported, health care professionals in India are encouraged to institutionalize routine screening and treatment of all women for domestic violence and violence-related sequela. However, because the current reality is that many women living in India will rarely see a health care provider for any reason, strong efforts to build the capacity of India's health care system are in order.

The formation and strengthening of women's groups aimed at preventing domestic violence and offering support to violence victims may be another very useful way to improve the lives of Indian women and their families, especially in the most rural areas where there is the greatest dearth of other types of health and social services. In India, such women's groups have encouraged abuse victims to "speak bitterness," to disclose their victimization experiences rather than to feel ashamed of the violence and try to keep it secret (29). These groups also work with health professionals, other community service providers, and policy makers to develop and implement domestic violence intervention services such as domestic violence programs, treatment programs for abusive men, and battered women's shelters and to advocate for social and legal changes that will enhance the status and rights of women.

The findings of this research showing that family stressors, especially low educational levels and poverty, are strong risk factors for wife abuse suggest that broad social changes aimed at bettering the Indian population's access to advanced education and employment opportunities could potentially lead to improvements in many aspects of family life, including the prevention or reduction of family violence. Therefore, resources directed toward social equity could result in a cost savings in terms of preventing the morbidity and mortality associated with domestic violence.

Physical and sexual abuse are all-too-common problems of women worldwide, including Indian women. Health professionals are encouraged to take the lead in conducting research to better estimate the prevalence of and risk factors for wife abuse in numerous countries and cultures as well as developing and evaluating innovative programs and policies to provide therapeutic and preventive services to address these important concerns.

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