

ORIGINAL CONTRIBUTIONS

DETERMINANTS OF DOMESTIC VIOLENCE AMONG WOMEN ATTENDING AN HUMAN IMMUNODEFICIENCY VIRUS VOLUNTARY COUNSELING AND TESTING CENTER IN BANGALORE, INDIA

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ABSTRACT

CONTEXT: Violence against women is a global phenomenon that cuts across all social and economic classes. **AIMS:** This study was designed to measure the prevalence and correlates of domestic violence (DV) among women seeking services at a voluntary counseling and testing (VCT) center in Bangalore, India. **SETTINGS AND DESIGNS:** A cross-sectional survey was conducted among women visiting an human immunodeficiency virus (HIV) VCT center in Bangalore, between September and November 2005. **MATERIALS AND METHODS:** An interviewer-administered questionnaire was used to collect information about violence and other variables. **STATISTICAL ANALYSIS USED:** Univariable associations with DV were made using Pearson Chi-squared test for categorical variables and Student t-test or the Mann-Whitney test for continuous variables. **RESULTS:** Forty-two percent of respondents reported DV, including physical abuse (29%), psychological abuse (69%) and sexual abuse (1%). Among the women who reported violence of any kind, 67% also reported that they were HIV seropositive. The most common reasons reported for DV included financial problems (38%), husband's alcohol use (29%) and woman's HIV status (18%). Older women ($P < 0.001$) and those with low income levels were the most likely to have experienced DV ($P = 0.02$). Other factors included husband's education, HIV seropositivity and alcohol or tobacco use ($P < 0.001$). **CONCLUSION:** This study found DV levels comparable to other studies from around the world. The findings highlight the need for additional training among health care providers in VCT centers in screening for DV, detection of signs of physical abuse and provisions and referrals for women suffering from domestic partner violence.

Key words: Domestic Violence, HIV, India, Voluntary Counseling and Testing Center, Women

Violence against women is a global phenomenon that cuts across all social and

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economic classes. In a survey of more than 24,000 women in 10 countries, the World Health Organization (WHO) found that 10-69% of women reported being physically assaulted by an intimate male partner at some point in their lives.^[1] Much of this violence is accompanied with psychological and sexual abuse.^[1-5] The issue has emerged as a central

public health concern since victims are at high risk for adverse health outcomes, including sexually transmitted diseases,^[5] HIV,^[6] alcohol abuse and drug dependence,^[7] homicides and suicides,^[8] mental disorders,^[9] miscarriages, preterm labor, fetal distress and low birth weight infants.^[10]

Although there is a paucity of data on domestic violence (DV) from some parts of India, available research suggests that the scope of the problem is large. One study in five districts of Uttar Pradesh found that 18-45% percent of men reported that they physically abused their wives, and 18-40% indicated that they had nonconsensual sex with their spouses.^[1] A household survey conducted in six Indian states found that 40% of women respondents reported being physically assaulted at some point in their life.^[1] In another study of married women in rural Maharashtra, Jain et al. found that almost half of the respondents said they had been slapped, hit, kicked or beaten by their husbands at some time - 24% reported being kicked, 44% during pregnancy; 12% were specifically threatened by their husbands with having kerosene oil poured on them to set them on fire; and 30% of assaults required medical care.^[11]

There is controversy regarding the underlying determinates of domestic violence. Much of the research has been carried out in North America, so this poses some questions about generalizability to developing countries. Widely differing prevalence rates across the world do suggest that DV occurs within a social and cultural context. Accepting that, there are a number of risk factors that appear to be reasonably universal. Strong associations have been found between DV and low

household income,^[12-14] low educational level of husband,^[15-17] consumption of alcohol and drugs^[18-21] and witnessing domestic violence during childhood.^[22,23] Researchers have also identified an inverse relationship between a woman's educational attainment and domestic violence.^[16,24,25]

Other determinates of domestic violence are not so clear. Some studies have found an association between DV and positive HIV status,^[26,27] polygamy,^[28] multiple sexual partners^[29] and use of contraceptives.^[30] Younger age has also been cited as a risk factor.^[31] In addition several studies showed that a woman's increased status as evinced by control over resources is protective against DV,^[32,33] while others demonstrated that employment and increased status do not necessarily reduce domestic violence^[34] and may in culturally conservative areas increase it.^[35]

This study examines violence among a sample group of women attending a voluntary counseling and testing center at a nongovernment organization located in Bangalore, India.

MATERIALS AND METHODS

Study design

A cross-sectional study was conducted among women and couples visiting Freedom Foundation from September to November 2005. Freedom Foundation is a free-standing, voluntary HIV counseling and testing (VCT) clinic providing care and treatment services for people infected and affected with HIV in Bangalore, Karnataka.

Women between the ages of 18 and 45 years visiting Freedom Foundation and its affiliate hospitals for counseling and testing facilities were invited to participate. At registration, patients were informed about the study. They were told that participation was anonymous and completely voluntary and that refusal would in no way affect their care. Those who agreed to participate were interviewed while waiting for services. Because of limitations of funds, a convenience sample was utilized for this study.

Human subjects

The study was approved by the independent Ethics Committee of the School of Medical Education, Mahatma Gandhi University. Data were only collected from eligible participants who gave their written informed consent to participate.

Data collection

Women interested in participating were privately administered a structured questionnaire in the local language, viz., Kannada. The questionnaire included sections on demographic information; household socioeconomic status; indicators of financial autonomy; partner characteristics; HIV testing and disclosure experiences; history of violence; associated consequences of violence; and attitudes regarding violence.

Domestic violence variables

Variables related to abuse included presence of different types of physical abuse (slap or punch, kick, push, etc.), psychological abuse (threats, insults, humiliating remarks, abnormal jealousy, fear, etc.) or sexual abuse (nonconsensual sex) with the woman's current partner or a previous

partner. Each woman was asked, 'Has your partner ever done any of the following: slapped you, thrown something at you to hurt you? pushed or shoved you? hit you with his fist or with an object that could hurt you? kicked you, dragged you or beaten you? choked or burned you on purpose? physically forced you to have sexual intercourse when you did not consent? ever forced you to do something sexual that made you feel degraded or humiliated? insulted you or made you feel bad about yourself? humiliated you in front of others? scared or intimidated you? threatened to hurt you or someone you cared for?'

Each of these questions had three possible responses: 'Many times,' 'Sometimes' or 'Never.' The woman was considered to have experienced violence if she answered 'Many times' or 'Sometimes' to any of the above questions related to abuse. The items were designed on the basis of scales used in earlier studies, including the WHO Multi-Country Study on Women's Health and Domestic Violence Against Women.^[36]

Data analysis

Data were entered in MS Access (Microsoft Corporation, Redmond, WA) and analyzed in Stata 8.0 (Stata Corporation, College Station, TX). The primary outcome was a composite variable 'Domestic Violence' (DV) analyzed as a binomial variable. DV is defined as having experienced physical, sexual, psychological violence or a combination of these. Univariate associations of baseline characteristics with DV were made using Pearson Chi-squared test or Fisher-exact method. Continuous variables were compared between groups using Student *t*-test or the Mann-Whitney test

for nonparametric data. Variables with *P* values less than 0.1 were considered for inclusion in unadjusted and adjusted logistic regression models, with tests of significance being 2-tailed ($P < 0.05$). Confidence intervals were calculated at the 95% level.

RESULTS

Sociodemographic characteristics of the respondents are shown in Table 1. Over 80% of the participants were between 15 and 25 years of age with two-thirds reporting less than 10 years of education. One quarter of the study participants lived in a rural area ($n = 61$), and 43% lived in a joint family setting with husband's extended family. About 54% were housewives, with 59% of the women reporting a total household income of less than INR 4,000 (\$1 = INR 45). A third of the women reported being married before the age of 18 years. Almost all women included in the study had arranged marriages (91%), and the families of 34% women had given dowry to their husband's family. A small number of women (7%) reported that the dowry had positive impact on their marriage. Two-thirds of the women respondents lived in urban communities. One-third of the women reported that their earnings were the family's main source of income.

Study participants' husbands' characteristics are described in Table 2. Sixty-one percent were reported to have had less than 10 years of education, and 50% were reported to be HIV seropositive. Sixty-eight percent of the interviewees reported more than 5 years of age difference between themselves and their partners. More than half of study participants reported that their husbands used alcohol

(58%), and 33% reported that they were victims of DV while their husbands were under the influence of alcohol.

Participants reported the following types of DV

Table 1: Sociodemographic characteristics of 245 Indian women attending voluntary counseling and testing center in Bangalore

Characteristic	N (%)	Domestic violence		χ^2	P-value
		n	%		
Age categories				25.05	0.0001
15-20 yrs	101 (41)	32	31.6		
21-25 yrs	106 (43)	46	43.4		
26-30 yrs	38 (15)	30	79		
Education status				0.022	0.88
Less than 10 yrs	151 (62)	66	43.7		
10 yrs or more	94 (38)	42	44.7		
Income (In INR)				9.53	0.02
≤ 2,000	14 (5.7)	10	71.4		
2,001 to ≤ 4,000	129 (53)	63	48.8		
4,001 to ≤ 6,000	64 (26)	21	33		
≥ 6001	38 (15)	14	36.8		
Family type				8.23	0.004
Nuclear	139 (56.7)	72	51.8		
Joint	106 (43.3)	36	33.9		
Geographical region				2.11	0.146
Rural	61 (25)	22	36.1		
Urban	184 (75)	86	46.7		
Occupation				35.42	0.0001
White collar worker	19 (7.8)	10	52.6		
Daily wages	93 (38)	62	66.7		
Housewife/unemployed	133 (54.2)	36	27		
Dowry				4.06	0.044
No	162 (66)	64	39.5		
Yes	83 (34)	44	53		
Impact of dowry				53.5	0.0001
Positive	16 (7)	4	25		
Negative	62 (25)	52	83.9		
No Impact	167 (68)	52	31.1		
Type of violence					
Physical	32 (13)				
Sexual	1 (0.41)				
Psychological	75 (30.6)				
HIV serostatus				10.44	0.001
Seropositive	110 (45)	36	32.7		
Seronegative	135 (55)	72	53.3		
Age difference between partners				5.8	0.21
≤ 5 yrs	78 (32)	36	46		
6-10 yrs	107 (44)	48	45		
11-15 yrs	42 (17)	12	29		
More than 16 yrs	18 (7.5)	8	44.5		
Family's main source of income				11.9	0.001
Husband's earnings	173 (71)	64	36.9		
Own earnings	72 (29)	44	61.1		

Table 2: Characteristics of the sexual partners of 245 Indian women attending voluntary counseling and testing center in Bangalore

Characteristic	Domestic violence				P-value
	N (%)	n	%	χ^2	
Husband's age				27.43	0.0001
15-20 yrs	2 (0.82)	0	0		
21-25 yrs	24 (9.80)	6	25.0		
26-30 yrs	73 (29.80)	24	32.8		
31-35 yrs	44 (17.96)	22	50.0		
36-40 yrs	60 (24.49)	24	40.0		
More than 41 yrs	42 (17.14)	32	76.19		
Husband's education				10.69	0.001
Less than 10 yrs	150 (61)	76	50.7		
10 yrs or more	95 (39)	28	29.3		
Husband's HIV serostatus				12.5	0.0001
Seronegative	122 (50)	40	32.7		
Seropositive	123 (50)	68	55.3		
Husband's alcohol use				21.58	0.0001
No	104 (42.5)	28	26.9		
Yes	141 (57.5)	80	56.7		
Husband's tobacco use				1.00	0.317
No	190 (77.5)	87	45.8		
Yes	55 (22.5)	21	38.2		
Frequency of alcohol use by husband				110.12	0.0001
Everyday	82 (33.5)	70	85.3		
4-6 times a week	8 (3)	8	100.0		
2-3 times a week	35 (14)	4	11.4		
2-4 times a month	12 (5)	0	0		
Once a month or less	10 (4)	4	40		
No alcohol use	98 (40)	22	22.4		

[Table 3]: Forty-two percent reported having experienced some type of violence, including sexual abuse (1%), physical abuse (29%) and psychological abuse (69%). Among the women who reported violence of any kind, 67% also reported that they were HIV seropositive. The most common reasons for violence included financial problems (38%), husband's alcohol use (29%) and woman's HIV serostatus (18%). Among the women who reported violence, 29% had never received medical care after DV and 10% had never told a health worker about being abused. Only 5% of the women reported speaking to the health worker about problems

Table 3: Description of violence experienced by 245 Indian women attending voluntary counseling and testing center in Bangalore

Characteristic	N	(%)
Forbids her to meet her family		
No	191	78
Yes	54	22
Forbids her to get employment		
No	147	60
Yes	98	40
Refuses to give any money		
No	197	80
Yes	48	20
Insulted or swore at her		
No	176	72
Yes	69	28
Experienced violence due to husband's financial problems		
No	133	54
Yes	112	46
Beaten while pregnant		
Never pregnant	12	5
Yes	44	18
No	189	77
Beaten by other members of family		
No one	219	89.4
Mother	8	3
Mother-in-law	16	6.5
Relatives of husband's family	2	0.82
Woman's wages taken away		
Yes	32	13
No	96	39
Unemployed	117	48
Prevented her from working		
No	181	74
Yes	64	26
Husband's attitude towards your job		
Supportive	102	42
Un-supportive	143	58

of violence at home. Among the 233 women who reported being pregnant, 44 (19%) were beaten while they were pregnant. The most common perpetrators of violence included husband or mother-in-law but rarely husband's relatives.

Forty-six percent of participants reported employment and 13% reported that their husband took their wages or earning. Surprisingly, 75% of working respondents reported being abused because of their employment status. Twenty-nine percent of participants reported that their earnings were the main source of income for

the family, with 58% of those reporting violence. Nearly 89% of the women reported they had no savings of any kind.

DV and associated factors

Sociodemographic factors: Older women were more likely to report violence as compared to younger women ($P < 0.001$). Women with the lowest income ($< \text{INR } 2000$) were the most likely to have experienced DV ($P = 0.02$). Living in a nuclear family was associated with experiencing DV ($P = 0.004$). Interestingly, having employment was significantly associated with violence ($P < 0.001$). No association was found, however, between women's educational level and DV.

Other factors associated with DV included husband's education, HIV seropositivity and alcohol or tobacco use ($P < 0.001$). Dowry payments were also significantly associated with domestic violence.

Unadjusted univariate logistic regression showed that the relative odds of experiencing violence of any kind was 3.6 times for women whose monthly income was less than INR 2,000 (Odds Ratio [OR]: 3.6; 95% Confidence Interval [95% CI]: 1.1-11.6; $P = 0.03$) as compared to women whose household income was more than INR 2,000 [Table 4]. The relative odds for experiencing violence also increased for women living in nuclear families (OR: 2.14; 95% CI: 1.3-3.6; $P = 0.004$), with partner having less than 10 years of education (OR: 2.46; 95% CI: 1.4-4.2; $P = 0.001$).

Controlling for partner's age, the relative odds ratio of reporting violence was 0.49 for couples with more than 5 years of age difference as

Table 4: Multivariable analysis of factors associated with domestic violence among 245 Indian women attending voluntary counseling and testing center in Bangalore

Characteristic	crude OR	95% CI	adj OR	95% CI
Age categories				
15-20 yrs	1.00		1.00	
21-25 yrs	1.65	0.93, 2.92	1.64	0.84, 3.24
26-30 yrs	8.08	3.33, 19.6	5.23*	1.81, 15.1
Income (in INR)				
$\leq 4,000$	1.99	1.18, 3.37	2.03*	1.04, 3.97
> 4000	1.00		1.00	
Family type				
Nuclear	2.09	1.24, 3.52	1.77	0.93, 3.34
Joint	1.00			
Occupation				
White collar worker	5.38	3.02, 9.58	3.15*	1.55, 6.36
Daily wages	2.99	1.12, 7.96	2.91	0.95, 8.94
Housewife/unemployed	1.00		1.00	
Dowry				
No	1.00		1.00	
Yes	1.73	1.01, 2.95	1.43	0.74, 2.75
HIV serostatus				
Seronegative	1.00		1.00	
Seropositive	2.35	1.39, 3.96	0.57	0.12, 2.74
Husband's education				
Less than 10 yrs	1.00		1.00	
10 yrs or more	0.43	0.25, 0.73	0.53	0.27, 1.01
Husband's HIV serostatus				
Seronegative	1.00		1.00	
Seropositive	2.53	1.51, 4.26	1.52	0.32, 7.04
Husband's alcohol use				
No	1.00		1.00	
Yes	3.55	2.06, 6.18	2.62*	1.27, 5.37

* $P < 0.001$

compared to couples with less than 5 years of age difference (95% CI 0.27, 0.89).

Multivariable logistic regression analysis showed that older age, lower income, employment status of women and alcohol use by men were independently associated with DV after adjusting for family type, dowry payment, HIV serostatus of the woman and her partner and the partner's education [Table 4].

DISCUSSION

The results of our study largely corroborate findings of previous studies from India^[11] and

around the world.^[1] Forty-two percent of all respondents reported experiencing some type of violence, with 29% reporting physical violence and 69%, psychological abuse. Interestingly, the amount of sexual abuse reported was very low (1%), possibly reflecting the view by many Indian women that providing sex to their husbands is a marital duty. In addition, talking about sex and sexual acts is highly stigmatized; this may have led to underreporting.

Not surprisingly, having low income was highly correlated with DV in both unadjusted and adjusted analysis. This finding is consistent with a large body of research suggesting that the stressors of poverty may put a significant burden on families and these tensions can erupt into violence.^[37] In a related finding, however, a woman's employment, contribution to household budget and access to savings were not found to be protective against DV. Being employed actually increased the likelihood that a woman would have experienced domestic violence. This is consistent with findings from another study in Bangladesh, which found that in culturally conservative areas, higher status of women vis-à-vis that of their husband predisposed women to DV.^[35]

Consistent with past research, other variables found associated with DV included alcohol but not tobacco use and lower educational level of husband. Other variables which have been noted in past studies such as living in a nuclear family and age difference between husband and wife were not found to be significantly associated with violence. Interestingly, when we adjusted for the husband's age, having an age gap of more than 5 years was protective

of women against DV. More research is needed to understand the relationship between partners' age difference and domestic violence in India.

The study also found an association between seropositivity and DV, but the cross-sectional nature of the research makes it impossible to determine the temporality of the variables. There is literature to show both - that DV predisposes women to HIV infection^[6] and that HIV infection increases women's risk for DV.^[26] Further research is needed to shed light on this important issue.

There are several limitations to this study. Since all behaviors were self-reported, it is likely that there was some degree of recall bias and misreporting. Furthermore, since certain behaviors such as talking about sex are stigmatized, women may have underreported sexual violence, leading to a lower overall estimate of DV in the community. Because of the cross-sectional design, it is also difficult to establish any causal relationships. In addition, associations may have been influenced by recall bias due to exposure misclassification. Finally, the study utilized a convenience sample from a clinic-based population that may not be representative of the general population. Women attending a VCT center may be more prone to violence, more willing to report DV or may have other characteristics that distinguish them from other women. Other limitations include lack of verification of various economic variables and limited data on the severity and frequency of DV. All of these limitations may have led to an underestimation of actual DV prevalence.

It should also be noted that estimates about

DV are extremely sensitive to the specific definitions used and to the way questions are asked.^[6] We used a brief interviewer-administered questionnaire, in which questions queried specific behaviors rather than general abuse. Previous research has shown that this technique yields more positive answers than questions inquiring about violence in general. Moreover, the phrasing of the questions was based on the WHO Multi-Country Study on Women's Health and Life Events.^[36]

These limitations notwithstanding, the present study corroborates the high prevalence of DV among women in clinical settings. While this study may not have wide generalizability, it may provide useful insights for health care providers, particularly in HIV prevention and testing settings. Our finding that 42% of women attending a VCT clinic had been abused at some time in their lives is cause for concern and action. At the minimum, health care professionals providing services in these settings have the obligation to ascertain whether DV has occurred, determine the severity of partner abuse and intervene where possible on the patient's behalf. In particular, providers at VCT centers should be trained in asking appropriate screening questions, detecting physical signs of abuse and providing referrals to counseling facilities, shelters and community-based organizations.

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The Cochrane Library (available at www.thecochranelibrary.com) is considered by many to be the single most reliable source for evidence on the effects of health care interventions. It includes seven databases that are updated quarterly, four of which are the efforts of the 15,000 international contributors of the Cochrane Collaboration (www.cochrane.org).

The Cochrane Database of Systematic Reviews currently contains 4655 regularly-updated systematic reviews and protocols of reviews in preparation.

The Cochrane Controlled Trials Register currently contains references, mostly with abstracts, of more than 48,900 controlled clinical trials—easily the largest collection of such trials in the world.

The Cochrane Database of Methodology Reviews contains 22 systematic reviews of the science of reviewing evidence.

The Cochrane Methodology Register contains the bibliography of 9048 articles that could be relevant to anyone preparing systematic reviews.

The three other databases in The Cochrane Library include the:

- Database of Abstracts of Reviews of Effectiveness, summaries of 5931 systematic reviews published elsewhere and quality appraised by the UK National Health Service (NHS) Centre for Reviews and Dissemination.
- Health Technology Assessment Database that contains details of 6358 completed and ongoing health technology assessments.
- NHS Economic Evaluation Database that contains 20,292 abstracts of quality assessed economic evaluations from around the world.

Also available is information about the Cochrane Collaboration. One can search for interventions or health conditions across all these databases using free text terms or medical subject headings (MeSH).

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