Measuring domestic violence in human immunodeficiency virus-positive women

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ABSTRACT

BACKGROUND

Violence affects the lives of millions of women worldwide, in all socio-economic classes. Violence and the fear of violence are emerging as important risk factor contributing to the vulnerability to human immunodeficiency virus (HIV) infection for women. The objective of the present cross sectional study is to compare the experiences of domestic violence between HIV-positive and HIV-negative married women seeking treatment in a tertiary care hospital.

METHOD

The study is conducted in a tertiary care hospital in Pune on a randomly selected 150 married women (75 HIV-positive and 75 HIV-negative). Informed consent was obtained from all the women and also a trained counsellor was present during the process of data collection. The data was collected by interview method by taking precautions as laid down in the World Health Organization's ethical and safety recommendations for research on domestic violence and using modified conflict tactics scale (CTS). The definition of violence followed is as per the Declaration on the Elimination of Violence against Women, adopted by the United Nations General Assembly in 1993.

RESULTS

The percentage of women reporting domestic violence is 44.7% (95% confidence interval [CI]=36.84–52.68). The proportion of physical, emotional and sexual violence reported is 38% (95% CI=30.49–45.96), 24% (95% CI=17.67–31.31), and 14.7% (95% CI=9.66–21.02), respectively. The odds of reporting violence of all forms is significantly higher among HIV-positive women than among HIV-negative women ($P<0.05$). Univariate and multivariate logistic regression is carried out to examine the possible predictors of domestic violence.

CONCLUSION

The findings suggest high proportion of HIV-positive women report violence then HIV-negative women which must be addressed through multi-level prevention approaches.

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Key Words: domestic violence; human immunodeficiency virus; violence against women

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INTRODUCTION

Domestic violence or violence against women is one of the most pervasive yet under-recognised human rights violations in the world. Domestic violence in addition to causing injury also increases women's long-term risk of a number of other health problems including chronic pain, physical disability, drug, and alcohol abuse.^{1,2} Women with a long history of physical and sexual abuse have an increasing risk of unintended pregnancy, sexually transmitted diseases, and miscarriages.^{3–5} International events namely United Nations conferences on population and development, the Declaration on the Elimination of Violence Against Women,⁶ Platform of Action for United Nations and Beijing World Conference on Women recognise violence against women as a violation of basic human rights. The World Health Organization (WHO) has also recognised violence against women as a public health issue.⁷ Internationally, one in three women have been beaten, coerced into sex or abused in their lifetime by a member of her own family⁸ and one in every four is abused during pregnancy.⁹ A review of over 50 population-based studies performed in 35 countries prior to 1999 indicated that between 10% and 52% of women around the world report that they have been physically abused by an intimate partner at some point in their lives.

Violence and the fear of violence are emerging as important risk factor contributing to the vulnerability to human immunodeficiency virus (HIV) infection for women.¹⁰ There is growing evidence linking the epidemics of HIV and violence against women.¹¹ There are different ways in which the epidemics of HIV and violence overlap in the context of women's lives. Violence may increase a woman's risk for HIV infection through forced or coercive sexual intercourse^{12–15} and by limiting her ability to negotiate HIV-preventive behaviours.^{16–19}

In light of the above stated facts, this study is intended to find out the difference in proportion of HIV-positive and HIV-negative married women reporting domestic violence. The study objectives are to determine the characteristics and pattern of domestic violence against women and to explore and identify the risk factors leading to domestic violence.

MATERIALS AND METHOD

This is a cross-sectional study conducted in a tertiary care hospital. Assuming that the proportion of HIV-positive and HIV-negative women reporting domestic violence from National Family Health Survey-3 (NFHS-3) data for India as 50% and

27%, respectively,^{10,20} confidence interval (CI) as 95% with error of margin of 5% on either side of the true difference, and a desired power of the study as 80%, the minimum sample size required is 69 women each in both the groups namely HIV-positive and HIV-negative. The study randomly selected 75 HIV-positive and 75 HIV-negative married women seeking treatment in a tertiary care hospital in Pune. Informed consent was obtained from all the women and also a trained counsellor was present during the process of data collection. The definition of violence followed is as per the Declaration on the Elimination of Violence Against Women, adopted by the United Nations General Assembly in 1993 which defines violence against women as 'any act of gender-based violence that results in, or is likely to result in physical, sexual, or psychological harm or suffering to women, including threats of such acts, coercion or arbitrary deprivation of liberty, whether occurring in public or private life'. It encompasses, but is not limited to, physical, sexual, and psychological violence occurring in the family.³ Required information on domestic violence is collected by taking precautions as laid down in the WHO's ethical and safety recommendations for research on domestic violence and using modified conflict tactics scale (CTS). As per CTS, the following set of questions were used to measure various forms of violence.

Physical violence: Does (did) your (last) husband ever do any of the following things to you:

- Slap you?
- Twist your arm or pull your hair?
- Push you, shake you, or throw something at you?
- Punch you with his fist or with something that could hurt you?
- Kick you, drag you or beat you up?
- Try to choke you or burn you on purpose?
- Threaten or attack you with a knife, gun, or any other weapon?

Sexual violence: Does (did) your (last) husband ever:

- Physically force you to have sexual intercourse with him even when you did not want to?
- Force you to perform any sexual acts you did not want to?

Emotional violence: Does (did) your (last) husband ever:

- Say or do something to humiliate you in front of others?
- Threaten to hurt or harm you or someone close to you?
- Insult you or make you feel bad about yourself?

If the woman responded 'yes' to one or many questions from (a) to (g) she is classified to be experiencing physical violence. Similarly if the woman responded 'yes' to any of the questions from (h) to (i) she is classified to be experiencing sexual violence and if the woman responded 'yes' to any of the questions from (j) to (l) she is believed to be experiencing emotional violence. For the analysis, domestic violence is categorised as dichotomous variable 'yes' and 'no'. If the women has experienced any one of the different forms of violence, i.e. physical violence or sexual violence or emotional violence she is believed to be experiencing domestic violence.

Different risk and protective factors may operate in different settings. Hence, it is important to identify and then address those risk factors most strongly associated with domestic violence. These correlates considered in our study are the present age of the women, the place of residence, women's as well as her partner's educational status, Working status of women and her partner, number of children, alcohol consumption by husband/partner, partner's age, and women's HIV status. The various correlates considered in the paper are found to have bearing on domestic violence by various other authors.

RESULTS

The average age of the women respondents is 34.20 years with standard deviation (SD) of 8.9 years. The minimum age is 18 years and maximum age is 55 years. Human immunodeficiency virus-positive women had a mean age of 36.45 ± 9.59 years and HIV-negative women 31.59 ± 7.51 years.

Percentage of Women Reporting Violence

The overall proportion of women reporting domestic violence is 44.7% (95% CI=36.84–52.68). The proportion of women reporting physical, emotional, and sexual violence is 38% (95% CI=30.49–45.96), 24.0% (95% CI=17.67–31.31), and 14.7% (95% CI=9.66–21.02), respectively (Figure 1). Around 56% of HIV-positive women reported domestic violence as compared to 33.3% of HIV-negative women (odds ratio [OR]=2.55; 95% CI=1.25–5.22; $P=0.05$). Similar trend is observed for all the other forms of violence (Figure 2). The odds of reporting physical violence by HIV-positive women is 2.11 with 95% CI (1.02–4.37; $P=0.028$). Emotional violence is experienced significantly higher percentage 33.3% of HIV-positive women as compared to 14.7% by HIV-negative women (OR=2.91; 95% CI=1.23–7.01; $P=0.028$). Experience of sexual violence is significantly higher by HIV-positive women (24%) as compared

Figure 1 Percentage of women reporting various forms of violence.

Figure 2 Percentage of women reporting various forms of violence by HIV status.
HIV: human immunodeficiency virus.

to 5.3% by HIV-negative women (OR=5.61; 95% CI=1.66–20.85; $P=0.001$).

We cross-tabulated the HIV status with demographic and descriptive variables using χ^2 statistics to examine the relationship between violence and HIV (Table 1). Of the various correlates tested, univariately women's age, women's working status, experience of all the forms of violence namely physical, emotional, sexual, and domestic violence, partner's education, partner's age, and alcohol consumption by partner were statistically significantly associated with HIV status. To determine the possible predictors of domestic violence with a married partner logistic regression was carried out with the dependent outcome variable such as reporting of at least one of the events of physical violence, emotional violence, or sexual violence. We used backward stepwise logistic regression techniques that incorporated variables from each category to adjust for potential confounders and formally test interactions.

We assessed the model fit by 'Hosmer and Lemeshow test' which gave $P=0.324$ implying that the logistic model is correctly fitting the data. The model explains 42% of the total variability in outcome parameter ($R^2=0.42$). HIV-positive status, rural residence, number of children, and alcohol consumption by husband were significant factors putting the women at higher risk of domestic violence ($P<0.05$). Women's education, husband's education, as well as the working status of both were not statistically significant.

DISCUSSION

Although many homes provide the socially assumed family characteristics of love, support, and bonding, it has become evident that families frequently are also the scenes of violent human relationships. Women are unequivocally the primary victims of family violence, and the tradition of household

Table 1 Demographic characteristics of women in the sample.

Characteristics	HIV-negative % (n=75)	HIV-positive % (n=75)	Overall %	P value
Age (yr)				
<25	16	22.7	19.3	0*
25–45	82.7	56	69.3	
>45	1.3	21.3	11.4	
Residence				
Urban	38.7	48	43.3	0.249
Rural	61.3	52	56.7	
Education				
Illiterate	34.7	44	39.3	0.143
Primary	22.7	30.7	26.7	
Secondary	34.2	18.7	26.8	
Higher	8.4	6.7	7.3	
Women's working status				
Working	53.3	20.3	36.9	0*
Not working	46.7	79.7	63.1	
Number of children				
0	6.7	14.7	10.7	0.271
1–2	52	45.3	48.7	
>2	41.3	40	40.7	
Experiencing				
Physical violence	29.3	46.7	38	0.029*
Emotional violence	14.7	33.3	24	0.007*
Sexual violence	5.3	24	14.7	0.001*
Domestic violence	33.3	56	44.7	0.005*
Partner's age				
<25	7.1	1.3	4.1	0.035*
25–45	80	72	75.9	
>45	12.9	26.7	20	
Partner's education				
Illiterate	16	34.7	25.3	0.031*
Primary	22.7	25.3	24	
Secondary	48	29.3	38.7	
Higher	13.3	10.7	12	
Partners working status				
Working	97.3	98.7	98	0.560
Not working	2.7	1.3	2	
Partner drinks alcohol				
Yes	32	60	46	0*
No	68	40	54	
Husband has other wives				
No	100	97.3	98.3	0.169
Yes	0	2.7	1.3	

*Significant at 5% level of significance.
HIV: human immunodeficiency virus.

Table 2 Correlates of ever experiencing domestic violence: univariate and logistic regression.

Characteristics	Reporting violence (%)	OR	Unadjusted 95% CI	P value	Adjusted OR	95% CI	P value
HIV status							
HIV–	33.3	1			1		
HIV+	56	2.55	1.25–5.22	0.005	5.9	1.95–18.19	0.002*
Age (yr)							
< 25	44.8	1			1		
25–45	42.3	1.11	0.45–2.74	0.84	2.01	0.31–13.06	0.46
> 45	58.8	1.76	0.14–2.24	0.35	0.96	0.22–4.08	0.96
Residence							
Urban	29.2	1			1		
Rural	56.5	3.28	1.57–6.89	0.001	2.66	1.01–7.01	0.048*
Education							
Illiterate	47.5	1			1		
Primary	57.5	0.67	0.27–1.62	0.34	0.992	0.167–5.88	0.99
Secondary	32.5	1.88	0.75–4.72	0.14	1.56	0.27–9.05	0.61
Higher	27.3	2.41	0.5–12.56	0.21	1.57	0.235–10.56	0.64
Women's working status							
Not working	44.7	1			1		
Working	43.6	0.96	0.46–1.98	0.9	1.37	0.49–3.79	0.54
Number of children							
0	43.8	1			1		
1–2	32.9	1.59	0.46–5.42	0.41	0.084	0.014–0.51	0.07
> 2	59	0.54	0.15–1.86	0.27	0.157	0.054–0.46	0.001
Partner's age							
< 25	50	1			1		
25–45	41.8	1.39	0.21–9.15	0.69	4.93	0.349–6.97	0.23
> 45	44.8	1.23	0.16–9.82	0.82	1.41	0.405–4.9	0.59
Partner's education							
Illiterate	26.9	1			1		
Primary	25.4	1.01	0.36–2.77	0.98	1.58	0.29–8.58	0.59
Secondary	43.3	0.9	0.37–2.21	0.8	1.1	0.20–5.97	0.91
Higher	4.5	4.5	0.98–23.49	0.03	2.8	0.51–14.21	0.20
Partners working status							
Not working	50	1			1		
Working	44.4	0.8	0.16–3.98	0.75	0.44	0.06–3.22	0.42
Partner drinks alcohol							
No	32.1	1			1		
Yes	59.4	3.1	1.5–6.4	0	3.95	1.38–11.32	0.001*
Husband has other wives							
Yes	100	NA			NA		
No	38.1						

*Significant at 5% level of significance.

CI: confidence interval, HIV: human immunodeficiency syndrome, NA: not available, OR: odds ratio.

privacy has kept this violence against women hidden from scrutiny. The present study is an attempt to understand the magnitude of domestic violence and other forms of violence namely, physical, sexual, and emotional violence experienced by married HIV-positive women. The proportion of women reporting any form of violence is higher for HIV-positive women

then for HIV-negative women. Prevalence rates generally range from 20% to 50%.²¹ The major finding highlighted in this study is the strong association between violence and women's HIV status. Women infected with HIV were significantly more likely to have had a violent partner in their lifetime. A study conducted by Suzanne Maman also found that the odds of

reporting at least one violent event is significantly higher among HIV-positive women than among HIV-negative women (physical violence OR=2.63; 95% CI=1.23–5.63; sexual violence OR=2.39; 95% CI=1.21–4.73).²² Another study on NFHS-3 data of India found that married Indian women experiencing both physical and sexual violence from husbands demonstrated elevated HIV infection prevalence vs those not experiencing intimate partner violence (0.73% vs 0.19%; adjusted OR, 3.92; 95% CI, 1.41–10.94; $P=0.01$). Physical intimate partner violence alone is not associated with risk of HIV infection.²³ In India the proportion of acquired immunodeficiency syndrome (AIDS) cases among women has more than tripled from 7% in 1985 to 25% in 2001. Studies in India reveal a large proportion of women in monogamous marriages are increasingly susceptible to HIV.²⁴ The present study also tried to determine the magnitude of violence in HIV women and exploring the link between domestic violence and HIV.

There are a number of limitations in the study that must be acknowledged. Though regression analysis is carried out to take care of the confounders, the women in two groups were not matched initially for variables. Asking women to recall physically violent events presents some of these limitations, including female minimisation of experiences of violence^{19,20} and inaccurate recall of past events. However, it is possible that this bias may have caused an underestimation of the actual level of violence experienced by women in this study. In addition the population of women receiving treatment is not representative of all the women living in the state or India. Our findings, therefore, can only be generalised to women who use HIV treatment services in urban areas of Pune. Many events of domestic violence go unreported because of the stigma attached to it which cannot be ruled out in our study. Physicians should ask their patients routinely about domestic violence and when domestic violence is present should offer emotional and psychological care. There is a need to sensitise the population regarding gender inequality. List of non-governmental organisations (NGOs) and governmental organisations dealing with women's issues should be made known to the public. A larger study to confirm the linkage and to prove violence as a risk factor for HIV is recommended.

CONCLUSION

The present study reveals that large proportion of married HIV-positive women are vulnerable to physical, sexual, emotional and domestic violence which must be addressed through multilevel prevention approaches. Physicians should ask their patients routinely about domestic violence and when domestic violence is present should offer emotional and psychological care.

Intellectual Contributions of Authors

Study concept: Seema Patrikar, Brig AK Verma, Lt S Shatabdi
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Study supervision: Seema Patrikar, Brig AK Verma

CONFLICTS OF INTEREST

None identified.

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Journal scan

Comstock S, Pannell D, Talbot M, Compton L, Withers N, Tien HC. Spinal injuries after improvised explosive device incidents: implications for tactical combat casualty care. *J Trauma* 2011;71(5 Suppl 1):S413–S417.

Tactical combat casualty care aims to treat preventable causes of death on the battlefield but de-emphasises the importance of spinal immobilisation in the prehospital tactical setting. However, improvised explosive devices (IEDs) now cause the majority of injuries to Canadian Forces (CF) members serving in Afghanistan. We hypothesise that IEDs are more frequently associated with spinal injuries than non-IED injuries and that spinal precautions are not being routinely employed on the battlefield. The authors examined retrospectively a database of all CF soldiers who were wounded and arrived alive at the Role 3 Multinational Medical Unit in Kandahar, Afghanistan, from February 7, 2006 to October 14, 2009. The data were collected on demographics, injury mechanism, anatomic injury descriptions, physiologic data on presentation, and prehospital interventions performed. Outcomes were incidence of any spinal injuries. Three hundred and seventy-two CF soldiers were injured during the study period and met study criteria.

Twenty-nine (8%) had spinal fractures identified. Of these, 41% ($n=12$) were unstable, 31% ($n=9$) stable, and 28% indeterminate. Most patients were injured by IEDs ($n=212$, 57%). Patients injured by IEDs were more likely to have spinal injuries than those injured by non-IED-related mechanisms (10.4% vs 2.3%; $P<0.01$). Improvised explosive device victims were even more likely to have spinal injuries than patients suffering blunt trauma (10.4% vs 6.7%; $P=0.02$). Prehospital providers were less likely to immobilise the spine in IED victims compared with blunt trauma patients (10% [22 of 212] vs 23% [17 of 74]; $P<0.05$). The authors from the CF Health Services and Sunnybrook Health Sciences Centre Toronto, Ontario stated that the IEDs are a common cause of stable and unstable spinal injuries in the Afghanistan conflict. Spinal immobilisation is an underutilised intervention in the battlefield care of casualties in the conflict in Afghanistan. This may be a result of tactical limitations; however, authors concluded that the current protocols should continue to emphasise the judicious use of immobilisation in these patients.

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