

ORIGINAL RESEARCH

Factors associated with intimate partner violence among pregnant rural women in Rwanda

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ABSTRACT

Introduction: Intimate partner violence (IPV) is a major public health problem in Africa and internationally, with consequences that include physical injury, significant morbidity and even death. The Rwandan 2005 Demographic and Health Survey (DHS) reported a national prevalence of IPV among pregnant women of 10.2% but there were limited data available on the factors involved. The aim of this study was to determine the factors associated with and prevalence of IPV among pregnant Rwandese women in the rural southern province of Kabutare.

Methods: A total of 387 pregnant women attending antenatal clinics in the South Province of Rwanda answered a questionnaire which included items on demographics and IPV. Mean age and prevalence of IPV in the previous 12 months as well as lifetime IPV were assessed. Both univariate and multivariate odds of IPV exposure were estimated using logistic regression analysis.

Results: The mean age of the 387 participants was 29.4 years (SD 6.3 years). More than one in two participants reported lifetime verbal abuse (53.7%). Other forms of lifetime IPV included pulling hair (9.4%), slapping (18.2%), choking (6.5%), punching with fists (19.3%), throwing to the ground and kicking with feet (12.8%), and burning with a hot liquid (3.1%). In the multivariate analysis, alcohol use by male partner was positively associated with lifetime IPV (OR = 2.52; 95% CI [1.35, 4.71] for occasional drinkers, and OR = 3.85; 95% CI [1.81, 8.21] for heavy drinkers). Compared with subjects with no formal education, women who had elementary education were less likely to report lifetime IPV (OR = 0.30; 95% CI [0.11, 0.78]).



Conclusion: Alcohol use by male partner and low education of women were positively associated with lifetime IPV. The high rates of IPV among Rwandan pregnant women indicate the need for urgent measures to prevent and curb domestic violence using public health education, an awareness campaign and policy advocacy.

Key words: intimate partner violence (IPV), partner violence, Rwanda, women's health.

Introduction

Intimate partner violence (IPV) is a major public health problem in Africa and internationally¹⁻⁷. Its consequences among women may include death⁸, physical injury and disability, depression, post-traumatic stress syndrome⁹, suicidal ideation¹⁰, high blood pressure¹¹, unwanted pregnancy^{12,13}, miscarriage and low birth weight babies^{10,12,14} and sexually transmissible infections^{3,15}.

Previous studies have identified some associated factors: for the male perpetrator alcohol use^{2,6,7,17} and having multiple sexual partners⁴; for the woman, HIV-positive status^{3,6,15}, low education/ socioeconomic status^{2,6,7} and pregnancy⁷, being in a cohabitating or short-duration relationship.

The Rwandan 2005 Demographic and Health Survey (DHS) reported¹⁸ the prevalence of IPV among pregnant women as 10.2%, but there were limited data on the determinants of IPV in Rwanda. If the health status of women is to be improved, effective interventions against IPV must be provided. Interventions will be most effective if local data on the prevalence of and factors associated with IPV are identified.

The aim of this study was to determine IPV-associated factors among rural, pregnant Rwandese women.

Methods

Study population and questionnaire

In January 2006, trained research staff from the School of Public Health, National University of Rwanda administered

a survey questionnaire to 387 pregnant women attending for prenatal care services at Kabutare, a rural area in the South Province, Rwanda. The questionnaire included items on demographics, domestic violence, alcohol use by male partner, and HIV status. To assess IPV, consecutive HIV-infected and HIV-negative women were recruited into the study from antenatal clinic attendees. Study participants were asked specific questions (Fig1).

Statistical methods

The measures used in this study were based on items from the questionnaire. The outcome of interest was self-reported history of IPV defined as having any of the listed experiences (Fig1). The demographic characteristics of interest were age, education (no formal education, elementary education, high school and beyond), marital status, length of relationship with male partner, alcohol use by male partner, and HIV status.

Mean age, and proportions with lifetime IPV and IPV in the last 12 months were assessed. Both univariate and multivariate odds of IPV exposure were estimated using logistic regression analysis. All data analysis was performed using SAS 9.1 (SAS Institute Inc; Cary, NC, USA).

Ethics considerations

The Institutional Review Board of the National University of Rwanda and the National Ethics Committee approved the study protocol. Informed verbal consent was obtained before administering the survey to participants. Consenting women were interviewed in private by trained research assistants. There was no identifier on the response form.



<p>Lifetime violence Since you were married or while living with your partner, has your husband/partner ever:</p> <ol style="list-style-type: none"> 1. Threatened you verbally? 2. Pulled your hair? 3. Slapped you? 4. Punched you with his fists? 5. Thrown you to the ground or kicked you with his feet? 6. Choked you? 7. Burned you or pulled hot liquid onto you?
<p>Violence in the last 12 months In the last 12 months, has your husband/partner:</p> <ol style="list-style-type: none"> 1. Threatened you verbally? 2. Pulled your hair? 3. Slapped you? 4. Punched you with his fists? 5. Thrown you to the ground or kicked you with his feet? 6. Choked you? 7. Burned you or pulled hot liquid onto you?

Figure 1: Questions used to ascertain prevalence of intimate partner violence.

Results

The mean age of the 387 participants was 29.4 years (SD 6.3 years). Most of the sample was married (79.7%). More than one in two participants were married to an occasional alcohol drinker (58.1%), and 66.9% had elementary education. Almost one in two respondents (47.0%) were HIV positive and 54.7% reported lifetime IPV (Table 1).

Most participants reported lifetime experience of verbal abuse (53.7%). Other forms of lifetime IPV included pulling hair (9.4%), slapping (18.2%), choking (6.5%), punching with fists (19.3%), throwing to the ground and kicking with feet (12.8%), and burning with hot liquid (3.1%) (Table 2).

Results from univariate and multivariate analyses are reported (Table 3). Compared with women who had no education, women with elementary education were less likely to report lifetime IPV (OR = 0.24; 95% CI [0.10, 0.59], and OR = 0.34; 95% CI [0.13, 0.88] for high school or

beyond]). Participants who were in a cohabitating relationship were more than twice as likely to report lifetime IPV as those who were married (OR = 2.30; 95% CI [1.38, 3.82]). Compared with those who had lived with their male partner for 10 years or more, those who were in a relationship for 4 years or less were more likely to report lifetime IPV (OR = 3.25; 95% CI [1.73, 3.09]). Respondents whose male primary partners used alcohol were more likely to report lifetime IPV than those whose partners did not drink alcohol (OR = 2.66; 95% CI [1.48, 4.77] for occasional drinkers and OR = 4.01; 95% CI [2.00, 8.05] for heavy drinkers). There was no significant association between HIV-positive status and IPV.

As shown in the multivariate analysis, odds ratios were unchanged for elementary education and alcohol drinking of male partners. The association between cohabiting with a male partner and lifetime IPV was no longer significant in the multivariate analysis.



Table 1: Demographic characteristics of the study population

Demographic variable	N (%)
Age (years)	
18-29	214 (55.3)
30-39	141 (36.4)
≥40	32 (8.3)
Education	
No formal education	101 (26.1)
Elementary education	259 (66.9)
High school and beyond	27 (7)
HIV infected	
No	171 (47)
Yes	193 (53)
Relationship to partner	
Husband	307 (79.7)
Cohabiting partner	26 (6.8)
Boyfriend/other	52 (13.5)
Length current relationship (years)	
0-4	52 (13.4)
5-9	7 (1.8)
≥10	328 (84.8)
Male partner's alcohol consumption	
Never	79 (22.1)
Sometimes	208 (58.1)
Frequently or always	71 (19.8)
Lifetime domestic violence by age (years)	210 (54.7)
18-29	107 (50.7)
30-39	79 (56)
≥40	24 (75)

Table 2: Frequency of intimate partner violence among rural Rwandan pregnant women, 2006

Domestic violence type	Ever experienced (N = 384) n %	In last 12 months (N = 335) n %	P- value
Verbal abuse	206 (53.7)	174 (51.9)	<0.001
Pulling hair	36 (9.4)	23 (6.9)	<0.001
Slapping	70 (18.2)	48 (14.3)	<0.001
Being choked	25 (6.5)	9 (2.7)	<0.001
Punching with fists	74 (19.3)	44 (13.1)	<0.001
Throwing to ground and kicking with feet	49 (12.8)	31 (9.3)	<0.001
Burning with hot liquid	12 (3.1)	4 (1.2)	0.020



Table 3: Lifetime experience of intimate partner violence among rural Rwandan pregnant women, 2006, according to demographic variables

Demographic variable	Unadjusted OR (95% CI)	Adjusted OR (95% CI)
Age (years)		
18-25	1.00	1.00
26-34	0.94 (0.59, 1.48)	0.88 (0.51, 1.52)
35-47	0.60 (0.34, 1.01)	0.66 (0.34, 1.26)
Education		
No formal education	1.00	1.00
Elementary education	0.24 (0.10, 0.59)	0.30 (0.11, 0.78)
High school and beyond	0.34 (0.13, 0.88)	0.45 (0.16, 1.24)
HIV status		
No	1.00	1.00
Yes	0.99 (0.66, 1.50)	1.06 (0.66, 1.73)
Relationship to partner		
Husband	1.00	1.00
Cohabiting partner	2.30 (1.38, 3.82)	1.74 (0.82, 3.70)
Length current relationship (years)		
0-4	3.25 (1.73, 3.09)	1.71 (0.50, 5.91)
5-9	3.61 (0.70, 18.87)	2.92 (0.54, 15.91)
≥10	1.00	1.00
Male partner's alcohol consumption		
Never	1.00	1.00
Occasional drinker	2.66 (1.48, 4.77)	2.52 (1.35, 4.71)
Heavy drinker	4.01 (2.00, 8.05)	3.85 (1.81, 8.21)

CI, Confidence interval; IPV, intimate partner violence; OR, odds ratios.

Discussion

This study aimed to determine factors associated with IPV among rural pregnant women in Rwanda. The high rate of HIV-positive status in this study (47% compared with the national average of 3.2%) was due to participants being recruited from consecutive HIV-positive and HIV-negative women. Findings from this study indicate that more than one in two participants had experienced at least one form of IPV (verbal abuse) from their male partners (53.7% for lifetime IPV, and 51.9% for IPV in the last 12 months). These results are similar to reports from Soweto, South Africa (51%)¹⁹, but higher than those reported in Uganda (30%)² and Tanzania (45.7%)³. The Rwandan Demographic Health Survey (DHS) 2005 reported the prevalence of physical violence during pregnancy at 10%¹⁸.

The present study found alcohol use by a male partner to be positively associated with IPV. Previous studies have

reported a positive association between IPV and alcohol abuse by either perpetrator or victim^{7,17,20}. A positive correlation between IPV and partner's alcohol use was found in a study conducted among Turkish women⁷. In New Mexico, female trauma patients who were screened and found positive for alcohol problems were five times more likely to have experience IPV in the previous 12 months compared with those without alcohol problems¹⁷. A Polish study reported that perpetrators who drank alcohol were more likely to be physically violent than those who did not drink alcohol²⁰.

This study found no association between HIV and IPV, which differs from previous studies in Rwanda and elsewhere^{3,15,16}. In a sample of 600 Rwandan women from two urban and two rural antenatal clinics, Ntaganira et al found that HIV-positive participants were more likely to report IPV than those who were HIV negative¹⁶. In a 3 month follow-up study of 245 Tanzanian women, Maman



et al found that those who were HIV positive were more likely to report IPV than those who were HIV negative³. That risk was 10 times higher among young subjects. An explanation for the lack of association between IPV and HIV-positive status in the present study may relate to social support mechanisms being more protective in rural areas but this requires further research.

Results from this study indicate that education (positively associated with socioeconomic status) was inversely associated with lifetime IPV. Previous studies have reported a similar finding in other countries^{6,12,21,22}. In a cross-sectional study conducted among Turkish pregnant women, abused women were less educated and had lower income than non-abused women²¹. A Bangladeshi study found the less educated the woman, the greater her risk of IPV¹².

The limitations of this study are that its results cannot be used to assume causality. Second, it is possible that recall bias or deliberate mis-reporting may affect the accuracy of the self-reported data. However, this study used a standardized questionnaire that enables comparisons of IPV. The sample also had much higher prevalence of HIV-infected persons than would be the case in a community study. The prevalence of HIV in the general community is estimated at 3.2% among women 15-49 years²³. Finally, the underlying reasons for IPV were not explored. Future qualitative studies using in-depth interviews are recommended to obtain data on cultural and societal factors associated with IPV in rural Rwanda.

Conclusion

The prevalence of IPV among pregnant rural Rwandan women indicates an urgent need for specific protective measures, such as public awareness campaigns, social policy and legal reform. The identified associated factors may be useful in developing public health programs to address IPV among rural Rwandan women.

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