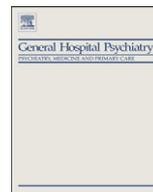


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Mental health consequences of intimate partner violence in Vhembe district, South Africa

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ABSTRACT

Objective: The aim of this study was to assess the contributions of different forms of intimate partner violence (physical violence, sexual violence, psychological abuse, and stalking) on symptoms of posttraumatic stress disorder (PTSD) and depression.

Methods: In all 268 women (18 years and older) consecutively receiving a protection order in the Vhembe district in South Africa were assessed by an external interviewer. Hierarchical regressions tested the unique effects of different types of intimate partner violence on PTSD and depression.

Results: In terms of PTSD symptom severity, more than half (51.9%) of the sample reported severe PTSD and 66.4% reported severe depression symptoms. Two types of intimate partner violence (physical and sexual) were significantly associated with PTSD symptoms, while only psychological violence was moderately correlated with depression symptoms. Physical abuse contributed to the prediction of PTSD and psychological abuse to depression.

Conclusions: A significant number of women with protection orders suffer from PTSD and depression. The results confirm a relationship between severity of intimate partner violence and mental health problems (PTSD and depression). Assessment of intimate partner violence should incorporate the multiple dimensions that have been identified as contributing to poor mental health.

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1. Introduction

In South Africa interpersonal violence has been the second highest contributor to the burden of disease, after HIV/AIDS [1]. Intimate partner violence (IPV) accounted for 62.4% of the total interpersonal violence burden in women [2]. More women are killed in South Africa by their current or ex-intimate male partner than in any other country with a rate of 8.8 per 100 000 women [2]. In a nationally representative study among a sample of 1229 married and cohabiting women in South Africa a prevalence of 31% intimate partner violence was found [3], and a study on physical violence among South African men found that 27.5% reported perpetration in their current or most recent partnership [4]. "Intimate partner violence refers to behavior by an intimate partner or ex-partner that causes physical, sexual or psychological harm, including physical aggression, sexual coercion, psychological abuse and controlling behaviours." [5]

Various studies have identified the mental health consequences of intimate partner violence, with PTSD and depression as the most commonly identified disorders [6–16]. In samples of women with intimate partner violence high rates of mental disorders have been found, e.g., a mean prevalence estimate of 64% of PTSD and 48% major depression [8]. Basile et al. [17] and Mechanic et al. [10] found that different types of intimate partner violence (physical, psychological, and stalking violence) were associated with PTSD and/or depressive symptoms. Only a few studies of battered women included multi-dimensional assessments of physical assault, sexual coercion, psychological abuse, and stalking [10,17]. Most research addressing mental health consequences of intimate partner violence focused on acts of physical violence [10,18]. Some studies [19] found that psychological abuse contributed significantly to PTSD. Sexual violence showed mixed evidence in predicting PTSD symptomatology [10,17]. Further, some evidence seems to show that when stalking is present in intimate partner violence, it may be a risk factor for more severe forms of violence [20] and increased psychopathology [10,21].

Previous studies found high severity of intimate partner violence in women with protection orders: physical violence (96.3%), sexual

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violence (26.5%), stalking (54.0%) [22]; women and men applying for an interim protection order in the Western Cape, South Africa, (depending on the different population groups) 62–73% physical violence, 89.5–100% verbal abuse, 57.1–61.5% psychological/emotional abuse, 21.4–38.2% economic abuse, and 7.1–11.4% sexual abuse [23]. Using data with the assessment of intimate partner violence with the Severity of Violence Against Women Scale (SAVAWS), several studies found among women with protection orders high mean scores of the different forms of intimate partner violence, 43–54 mean scores on psychological violence, 48.1–60 physical including sexual violence, 5.1–9.5 stalking and 6.8–9.0 mean scores on danger [24–27].

Worldwide, two models of care dominate for abused women: social services of counselling and safe shelter, and legal actions of arrest and protection orders. Little is known of the correlation of violence and mental health functioning of women with a protection order. Some research [23] seems to show that women with a protection order have experienced more severe intimate partner violence, than those without a protection order. Intimate partner violence is an acute source of stress [28]. Because of joint actions of underlying stress mediators, more severe levels of intimate partner violence may be associated with higher levels of mental symptoms [28], which prompted this study. The aim of this study was to assess the contributions of different forms of intimate partner violence (physical violence, sexual violence, psychological abuse, and stalking) on symptoms of PTSD and depression.

2. Methods

2.1. Sample and procedure

Study participants were recruited out of court when they obtained a civil protective order, also called domestic violence order, between May 2011 and November 2012. Two court jurisdictions (one rural and one urban) in Vhembe district, South Africa, were utilized for recruitment. Written informed consent was obtained from all study participants who met the following inclusion criteria: (1) be female, (2) be 18 years of age and older, (3) have obtained a protection order against a male partner, and willingness to give informed consent. Following an informed consent procedure, the interviewer verbally administered a questionnaire in Tsonga or Venda language in a private room without the partner or other individuals being present. All instruments were translated from English into Tsonga and Venda using standard backward and forward methods. Two research assistants had been extensively trained prior to conducting any interviews on interview protocols and on potential issues that could arise in dealing with situations involving intimate partner violence. Using systematic sampling, all 268 women consecutively receiving a protection order were assessed by a research assistant. Recruitment from the courtroom population yielded a high participation rate. Of the 302 women approached in court 268 (88.7%) agreed to participate. Twelve women with similar characteristics to the target sample assessed the face validity of the translated instruments. A few questions were adapted to the South African context, e.g., “Does he use illegal drugs in the past 3 months? By drug, I mean ‘dagga’ or street drugs such as amphetamines, Tik, cocaine, ‘crack.’” The study protocol was approved by the Human Sciences Research Council Ethics committee (REC 3/18/11/09), the Department of Justice and Constitutional Development and the Limpopo Department of Health and Social Development.

2.2. Measures

The SAVAWS is a 46-item instrument designed to measure threats of physical violence (19 items) and physical assault (27 items) [29]. Examples of behaviours that threaten physical violence are threats to destroy property, do bodily harm or harm other

family members, and examples of behaviours that represent physical violence are kicking, choking, beating up and engaging in forced sex. For each item, respondents use a three-point scale to indicate how often the behavior occurred (1=never, 2=once, 3=2–3 times, 4=4 or more times). Possible score ranges were 19–76 for the threat of abuse scale and 27–108 for the physical abuse scale. The higher the score, the more violence reported [29,30]. For this study, women were asked if the SAVAWS items had occurred within the last 90 days. The Cronbach's alpha reliability coefficient of the SAVAWS were 0.96 for the threat of abuse dimension and 0.97 for the physical abuse dimension.

Stalking Victimization Survey (SVS). This 17-item yes/no questionnaire was used to document the frequency and type of stalking engaged in by the perpetrator. The initial stalking survey instrument consisted of seven items (e.g., being followed or spied on, being sent unsolicited letters or written correspondence, or finding the perpetrator standing outside one's home, school, or workplace) developed by Tjaden and Thoennes [31]. Ten items were added from the Sheridan [32] HARASS instrument to form the overall 17-item instrument used here. Examples of items added include threats by the abuser to harm the children or to commit suicide if the woman left the relationship, leaving threatening notes on the woman's car, and threatening her family [27,32]. For this study, women were asked if the SVS items had occurred within the last 90 days. The possible score range was 0 to 17. The Cronbach's alpha reliability coefficient of the SVS for this study was 0.89.

The Danger Assessment Scale is a 16-item questionnaire with a yes/no response format designed to assist women in determining their potential risk for threats of becoming a femicide victim [33]. All of the items refer to risk factors that have been associated with murder in situations involving abuse. Examples of risk factors include the abuser's possession of a gun, use of drugs, and violent behaviour outside the home. The possible score range was 0 to 15. For this study, women were asked if the danger items had occurred within the last 90 days. The Cronbach's alpha reliability coefficient of the Danger Assessment Scale for this study was .66.

PTSD. The 17-item PTSD Checklist-Civilian Version (PCL-C) [34] was interviewed-administered. Of the items, 5 items measure re-experiencing symptoms (e.g., nightmares or flashbacks concerning the trauma), 7 measure avoidance symptoms (e.g., avoidance of thoughts or feelings about the trauma) and 5 items measure hyperarousal symptoms (e.g., difficulty concentrating, troubled falling or staying asleep). The PCL-C parallels diagnostic criteria B (re-experiencing), C (avoidance and numbing) and D (increased arousal) for PTSD, as delineated in the fourth edition of the *Diagnostic and Statistical Manual of Mental Disorders* [35]. It is a measure of PTSD symptomatology and severity. Respondents rate how much each symptom has bothered them in the past month using a five-point scale (1=not at all to 5=extremely). Cronbach's alpha was 0.97 for the PCL-C in this sample. The PCL-C can be scored in two ways. A total score above threshold of 50 is considered to be consistent with a PTSD diagnosis. Alternatively, cluster scoring can be used whereby an individual is considered to be PTSD-positive if one or more items from criterion B, three or more items from criterion C and two or more items from criterion D are endorsed, that is, rated at 3 or above [36]. The latter scoring method is used here, as suggested by Ruggiero et al. [37]. Studies have found that the PCL has adequate sensitivity in detecting PTSD (82–94%), specificity (83–86%), and overall PTSD diagnostic efficiency (83–90%) [38].

Depression. We assessed depressive symptoms using the 10-item version of the Centers for Epidemiologic Studies Depression Scale (CES-D) [39]. The reference time for the assessment was in the past week. Response options ranged from 0=rarely (<1 day) to 3=most (5–7 days). While the CES-D 10-item survey has not been directly compared to clinical diagnosis of major depression, the sensitivity and specificity of the CES-D 20-item survey has been reported to average

Table 1
Demographic and relationship characteristics of sample (N=268)

	M or n	SD or %
Age (range 18–62)	28.8	8.0
Formal education in years (range 0–17)	9.8	3.1
Number of children (range 0–9)	2.0	1.3
Children at home	196	76.3
Currently employed	68	26.8
<i>Economic household situation</i>		
Not enough money for basic things like food and clothes	157	58.8
Have money for food and clothes, but short on many other things	89	33.3
We have most of the important things, but few luxury goods	20	7.5
Some money for extra things such as going away for holidays and luxury goods	1	0.4
<i>Marital status</i>		
Married	78	29.2
Cohabiting	37	13.9
Single	136	50.9
Divorced/separated	16	6.0
Currently living with perpetrator	98	37.5
Current (past month) alcohol use	9	3.4

80% and 70%, respectively, compared to formal diagnostic interview [40]. We also identified respondents who experienced more severe depressive symptoms by distinguishing those scoring greater or equal to 15 out of 30 on the CES-D 10-item survey. This cut point was established from a previously established higher cut point used in the CES-D 20-item survey representing the top 25th percentile of the score distribution. Scoring is classified from 0–9 as having a mild level of depressive symptoms, 10–14 as moderate depressive symptoms, and ≥ 15 representing severe depressive symptoms [41].

Alcohol use was assessed by the Alcohol Use Disorder Identification Test– Consumption (AUDIT-C) questionnaire, a measure of consumption of alcohol (i.e., the frequency of drinking, the quantity consumed at a typical occasion) [42]. The Cronbach's alpha reliability coefficient of the AUDIT-C for this study was 0.82.

2.3. Data analysis

Data were analyzed using Statistical Package for the Social Sciences (SPSS) for Windows software application programme version 19.0. Frequencies, means, standard deviations, were calculated to describe the sample. Data were checked for normality distribution and outliers. Significantly skewed variables were transformed using the formula $\log_{10}(x+1)$. For non-normal distribution, non-parametric tests were used. Spearman rho correlations were used between a set of predictors and each outcome variable. To examine the relative

contributions of stalking and danger, psychological abuse, and physical violence on mental health outcomes, a set of two hierarchical multiple regression analyses was conducted on each dependent measure (PTSD and depression). Physical aggression (mild, minor, moderate and serious violence) and sexual violence were entered in the first step, followed by the addition of the stalking and danger variables on the second step. The final step added four psychological abuse variables (symbolic violence, threats of mild/moderate and serious violence). Tolerance and VIF (variance inflation factor) values did not show collinear variables.

3. Results

3.1. Sample characteristics

Of the 275 women approached to participate in the study 268 (97.5%) agreed to participate. Participants averaged 28.8 years of age (S.D.=8.0). All were from the African Black population group. The majority of women (76.3%) had at least one child residing with them, and on average two children (S.D.=1.3). Women received an average of 9.8 years of education (S.D.=3.1). Slightly above half (58.8%) of the women had an impoverished household income. In terms of participants' relationships with their abusive partners, 29.2% were married and 13.9% cohabiting, and 37.5% were living with their perpetrator at the time of the assessment (see Table 1).

3.2. Intimate partner violence

The overall prevalence of intimate partner violence was 97%, 93.7% physical violence, 94.0% psychological violence, 40.7% sexual violence, stalking 58.2% and danger 99.3%. In women 30 years and above the prevalence of stalking was lower and the severity of psychological violence higher than in women less than 30 years of age. Among women living with their partner the prevalence of psychological violence was lower and the severity of danger higher than in those women not living with their partner currently. Stalking prevalence was higher in women who were employed and a lower in women with lack of money, and physical violence severity was greater in women with lack of money than women with money (see Table 2).

3.3. Symptomatology

In terms of PTSD symptom severity, more than half (51.9%) of the sample reported severe PTSD and 29.9% mild to moderate PTSD symptoms. Depressive symptoms yielded a similar pattern of results. Severe symptoms were endorsed by 66.4% of the sample. In contrast, mild and moderate symptoms were reported by 11.2% and 22.4% of

Table 2
Prevalence and means of type of intimate partner violence

Variables	Total sample		Age 30 and more	Lives with partner	Children at home	Employed	Not enough money
	N	%	%	%	%	%	%
Overall violence	260	97.0	100	98.8	98.2	100	97.2
Physical violence	251	93.7	95.0	95.6	95.1	96.8	95.3
Psychological violence	252	94.0	97.0	88.9*	96.1*	96.6	91.9
Sexual violence	109	40.7	38.0	43.9	38.8	47.1	36.3
Stalking	159	58.2	46.3***	56.1	58.2	67.6	49.7***
Danger	266	99.3	100	97.6	99.4	100	100
	M	SD	M	M	M	M	M
Psychological violence	39.3	14.3	42.2*	42.4	40.3	41.2	40.6
Physical violence	61.1	22.6	62.9	60.1	60.9	60.4	66.2***
Stalking	3.4	3.9	3.0	3.8	3.4	4.3*	2.4***
Danger	8.2	3.1	8.6	8.7*	8.6*	8.3	8.5

* $P < .05$.*** $P < .001$.

Table 3
Symptom Severity Scale scores

	N	%	M (SD)
PTSD Checklist-Civilian Version (PCL-C)			52.0 (20.9)
PCL Score <30	49	18.3	
Sub-threshold or no PTSD Symptoms			
PCL Score 30-39	45	16.8	
Mild PTSD Symptoms			
PCL Score 40-49	35	13.1	
Moderate PTSD Symptoms			
PCL Score ≥50	139	51.9	
Severe PTSD Symptoms			
CES-D-10			16.2 (5.2)
Mild (0-9)	30	11.2	
Moderate (10-14)	60	22.4	
Severe (15 or more)	178	66.4	

the sample, respectively. Mental health symptoms falling within the severe range were reported by more than half of the sample (PTSD, 51.9%; depression, 66.4%). These data are found in Table 3. Moreover, PTSD and depression were also highly comorbid ($r = .41, P < .001$).

Spearman rho correlations between major predictors and each outcome variable were computed. Most types of violence (physical, psychological, stalking, danger) were significantly associated with PTSD symptoms, while only physical and psychological violence were moderately correlated with depression symptoms (see Table 4).

3.4. Predictors of PTSD and depression

PTSD. The results of the hierarchical regression analysis predicting PTSD scores are presented in Table 5. When entered into the equation in the first step, physical and sexual violence accounted for 45% of the variance in PTSD symptoms. The two stalking and danger variables were added next, contributing an additional 2% of explaining variance in PTSD scores. With physical abuse, stalking and danger controlled, psychological abuse no longer contributed unique variance to the prediction of PTSD. In the full model, significant independent predictors of PTSD were mild, moderate, serious and sexual violence. The relationship between mild, moderate, serious and sexual violence and PTSD symptoms is 1.92, 1.65, 1.21 and 0.68, respectively. For every score increase in mild, moderate, serious and sexual violence, the PTSD symptoms increase by 1.92, 1.65, 1.21 and 0.68, respectively.

Depression. The results of the hierarchical regression analysis predicting depression scores are presented in Table 6. When entered into the equation on the first and second step, physical and sexual violence and stalking and danger were not found to be significant. The final addition of psychological abuse explained 5% of variance in depression. In the full model, a significant independent predictor of depression was threats of mild violence. The relationship between threats of violence and depression symptoms score is 0.36. For every score increase in threats of violence, the depression symptoms increase by 0.36.

Table 4
Correlations of study variables.

	1	2	3	4	5	6	7
PTSD total	1.00						
Depression total	.41*	1.00					
Physical violence	.61*	.20*	1.00				
Sexual violence	.07	.09	.22*	1.00			
Psychological abuse	.32*	.25*	.64*	.35*	1.00		
Stalking	.34*	.02	.41*	.16*	.06	1.00	
Danger	.20*	.14	.45*	.31*	.50*	.21*	1.00

* $P < .01$

Table 5
Hierarchical multiple regression analysis predicting posttraumatic stress disorder symptoms

Variable	Stage 1		Stage 2		Stage 3	
	β	SE	B	SE	β	SE
Physical abuse						
SAVAWS-Mild violence	0.43***	0.42	0.38***	0.46	0.41***	0.48
SAVAWS-Minor violence	0.07	0.40	0.02	0.43	0.06	0.45
SAVAWS-Moderate violence	0.26**	0.48	0.294**	0.52	0.29**	0.54
SAVAWS-Serious violence	0.56***	0.27	0.48**	0.32	0.53***	0.35
SAVAWS-Sexual violence	0.04	0.30	0.09	0.32	0.12*	0.34
Stalking and danger						
Stalking			0.15	0.37	0.12	0.40
Danger			0.04*	0.45	0.06	0.50
Psychological abuse						
SAVAWS-Symbolic violence					0.08	0.55
SAVAWS-Threats of mild violence					0.08	0.41
SAVAWS-Threats of moderate violence					0.02	0.41
SAVAWS-Threats of serious violence					0.01	0.28
			$R^2 = 0.02$		$R^2 = 0.01$	
	$R^2 = 0.45$		$F (4.15)$		$F (0.82)$	
	$F (44.83)$		$P = .017$		$P = .516$	
	$P < .001$					

* $P < .05$.

** $P < .01$.

*** $P < .001$.

4. Discussion

The study found among a sample of women with protective orders in South Africa a high severity of overall and different types of intimate partner violence, as found in previous studies [22-27]. The result shows that a significant number of women with intimate partner violence in the present study experienced PTSD and depression. This finding concurs with the results of samples of women with intimate partner violence [8]. Also, in a study in primary care in South Africa both PTSD and major depression were significantly more common in patients with a history of domestic violence (35.3% and 48.2%, respectively) [43]. Because many women with protective orders are exposed to multiple, frequent, and sometimes unrelenting traumatic events, the impact of exposure is likely to be cumulative [10,44]. Further, PTSD and depression tended

Table 6
Hierarchical multiple regression analysis predicting depression symptoms

Variable	Stage 1		Stage 2		Stage 3	
	β	SE	β	SE	β	SE
Physical abuse						
SAVAWS-Mild violence	0.23	0.15	0.27	0.15	0.20	0.15
SAVAWS-Minor violence	0.07	0.14	0.11	0.14	0.10	0.14
SAVAWS-Moderate violence	0.06	0.17	0.02	0.17	0.02	0.17
SAVAWS-Serious violence	0.18	0.10	0.20	0.10	0.36	0.11
SAVAWS-Sexual violence	0.15	0.11	0.14	0.11	0.11	0.11
Stalking and danger						
Stalking			0.17	0.12	0.14	0.13
Danger			0.05	0.16	0.07	0.16
Psychological abuse						
SAVAWS-Symbolic violence					0.08	0.17
SAVAWS-Threats of mild violence					0.32**	0.13
SAVAWS-Threats of moderate violence					0.09	0.13
SAVAWS-Threats of serious violence					0.02	0.09
			$R^2 = 0.04$		$R^2 = 0.02$	
	$F (1.52)$		$F (1.65)$		$F (2.52)$	
	$P = .187$		$P = .195$		$P = .043$	

** $P < .01$.

to be highly comorbid, as found in other studies [10], thereby further increasing the likelihood of debilitating outcomes [10]. The severity of PTSD and depression symptoms in this sample may not be unexpected given that inclusion criteria for the study were having received a protection order. Recovery from PTSD and depression may also be further hampered by several other stressors, including poverty, lack of material resources and parenting stress [10,45].

In this study, physical and sexual violence contributed to the prediction of PTSD. These results support previous research identifying the unique contribution of different dimension of intimate partner violence [10,19]. Danger emerged as a unique predictor of PTSD in this sample, as also found in some other studies [10]. It is possible that the consistent threat posed by danger may result in symptoms of hyperarousal as a function of the unpredictable nature of the traumatic stressor [10]. This study further found that psychological abuse (in particular, threats of mild violence) contributed uniquely to the prediction of depression, as found in some other studies [10]. Threats of mild violence may influence depression via its eroding effect on self-esteem and self-worth [10,46]. The findings of this study, however, failed to identify a unique contribution of stalking in predicting PTSD and depression, contrary to some other studies [47,48]. It is possible that the protections afforded by protection orders lessened the effect of stalking on poor mental health.

Clinical implications from this study justify the immediate need to assess women reporting partner abuse for both PTSD and depression as the symptoms and treatment plans differ. If clinicians focus on depression and associated symptoms, the needs of the woman suffering from PTSD will be unaddressed and may worsen over time. Recent research indicates the intergenerational impact of abused women's mental health on the functioning of their children. Children of abused women who are exposed to the violence against their mother by the intimate partner are at increased risk for psychological distress of depression, anxiety and PTSD [49–51] as well as chronic health problems, such as asthma [52]. Clearly both the mental health of abused women must be assessed but also the mental and behavioral functioning of her children.

The study had its limitations. The results of this study cannot be generalized to all female survivors of intimate partner violence in South Africa since the current study was recruited a small sample out of court as women received protective orders for intimate partner violence. Some other studies [10] have found that the assessment of injury as a form of violence experienced by women added an important dimension of intimate partner violence, which should be added in future research.

5. Conclusion

In conclusion, the present study, as indicated by other research findings, illustrates that a significant number of physically abused women suffer from PTSD and depression. This study makes an important contribution to the literature because few studies have examined multiple dimensions of IPV and several types of mental health outcomes in South African women with protection orders. The results of this study support earlier studies indicating that there is a relationship between severity of intimate partner violence and mental health problems (PTSD and depression). Assessment of intimate partner violence should incorporate the multiple dimensions that have been identified as contributing to poor mental health. Additionally, intervening with abused women can provide a window of opportunity for early assessment and intervention on the potentially negative outcomes of mothers mental dysfunction on the psychological distress of her children.

The findings support strong correlations (see Table 5) between physical and sexual abuse and PTSD but not depression (see Table 6). The findings support the recommendation that clinicians screen women for partner abuse. Women who report abuse (threats,

physical, or sexual) are at higher risk to PTSD and should be evaluated for PTSD and treated appropriately. Our findings did not find a similar high correlation between abuse and symptoms of depression (see Table 6). This is new knowledge for women in Vhembe District of South Africa and requires further replication for best clinical practice.

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