Published in final edited form as:

East Afr J Public Health. 2009 August ; 6(2): 184–190.

Associations between Witnessing Parental Violence and Experiencing Symptoms of Depression among College Students

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Abstract

Objective—To examine the association between witnessing parental violence in childhood and experience of depressive symptoms during the academic year among college students in Awassa, Ethiopia.

Methods—A total of 2,708 undergraduate students (1,330 female and 1,378 male) completed a self-administered questionnaire that collected information concerning witnessing parental violence as a child and, symptoms of depression during the current academic year. Logistic regression procedures were used to estimate odds ratios (OR) and 95% confidence intervals (95% CI).

Results—Approximately 22.7% female students and 27.1% of the male students reported witnessing parental violence. Females who witnessed parental violence were twice as likely to report moderate depression (OR=2.04;95% CI 1.32-3.15), or 3-times as likely to report moderately severe depression (OR=3.02;95% CI: 1.67-5.47) as compared with those who did not witness parental violence. The corresponding ORs were 1.71 (95% CI: 1.13-2.59) and 2.42 (95% CI: 1.41-4.13) for male students. Female students who witnessed parental violence were 2.4-times (OR=2.37, 95% CI: 1.26-4.44) as likely to report feeling bad about themselves and 2.6 times (OR=2.62; 95% CI: 1.66-4.14) as likely to have trouble in concentrating compared with those who did not witness parental violence. Male students who witnessed parental violence were almost twice as likely to report having suicidal thoughts compared with their counterparts who did not witness parental violence (OR=1.97, 95% CI:1.16-3.34).

Conclusion—Intervention programs focused on domestic violence must also address the needs of young adults from affected households. School-based counseling services may be one modality for addressing the needs of youths exposed to violence.

Keywords

depression; parental violence; Ethiopia; college students

Introduction

Gender based violence (GBV), any violence committed against women, has been shown to have many negative effects on women's physical, mental and sexual health [1,2]. Typically violence against women is hidden, and is often regarded as a private family matter, or as a

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normal part of life [1-5]. As a result, most children grow up witnessing GBV in their homes and communities.

Reports from several studies indicate that children who grow up observing gender based violence (principally observing their fathers commit violent acts against their mothers) are at a higher risk of having emotional and behavioral problems, including anxiety, depression, poor school performance, low self-esteem, mood swings, self-destructive behavior, alcohol dependency and physical health complaints [6-10].

Ethiopia has one of the highest occurrences of gender based violence in the world. Investigators recently reported that 49% of Ethiopian women residing in the Butajira province of the country were physically abused by an intimate partner in their lifetime [4,5]. Notably, 71% of the women reported being physically and sexually abused by an intimate partner [4,5]. These data suggest that Ethiopian children are likely to witness domestic violence. To our knowledge, investigators have not explored the association between witnessing parental violence and risk of depression and depressive symptoms among youths in Ethiopia. We used data from a large survey of college students to evaluate the extent to which history of witnessing parental violence as a child is associated with depression and depressive symptoms among college students in Awassa, Ethiopia.

Methods

Sampling Procedure and Study Population

During the months of June and July of 2006 a cross sectional study was conducted among college students in Awassa, Ethiopia. The city of Awassa is located in the southern part of Ethiopia approximately 275 kilometers from the capital city, Addis Ababa. Eight private and public colleges and one university (hereafter referred as to “colleges” collectively) were selected to participate in the survey. The nine colleges had a total of 50 departments. Seventeen of the 50 departments were randomly selected for participation in the survey. Details of the study setting, sampling and data collection procedures have been described previously[11].

Data Collection and Management

Briefly, a self-administered questionnaire was used to collect data concerning social, demographic, and lifestyle characteristics of each participant. Questions were formulated so that participants could report whether they have witnessed parental violence as a child. Furthermore for female participants the questionnaire asked about any violence committed against them during their academic year. Questions from the World Health Organization (WHO) Multi-Country Study of Violence against Women were adapted for use in this study [4]. Physical abuse was assessed with six items. Slapping, throwing things, pushing and shoving were classified as moderate physical abuse behaviors. Conversely, kicking, dragging, strangling, choking, burning, threatening with a weapon or using a weapon (gun, knife or other object) were classified as severe physical abuse behavior. Sexual abuse was assessed with three items: using physical force to have sexual intercourse when respondent did not want to, escaping physically forced sexual intercourse while refusing, unwanted sexual touching or groping. Assessments of experience with physical and sexual abuse were calculated for the current academic year.

Depressive symptoms were evaluated using a nine-item depression module of the Patient Health Questionnaire (PHQ-9) designed for depression screening and monitoring[12]. The questions are based on the nine DSM-IV criteria for a major depressive episode. The PHQ-9 items queries participants about the frequency of nine depressive symptoms experienced. Students were instructed to report depressive symptoms during the current academic year.

Scores for each question range from 0 (“not at all”) to 3 (“nearly every day”). Although the PHQ-9 questionnaire was not formally validated in this study population, the instrument is used widely to estimate prevalence of depressive symptoms in community-based settings around the world [13,14].

Information concerning socio-demographic and lifestyle characteristics, including use of khat leaves (*Catha edulis*), a natural stimulant with amphetamine-like effects, commonly used for social recreation in Ethiopia [15,16], was also collected. The questionnaire was initially drafted in English then translated to the national Ethiopian language, Amharic. All students from selected departments were invited to a pre-selected area, typically the college's auditorium, where the overall objectives of the research project were described and discussed. Students interested in participating in the study were invited to complete the study questionnaire. Collected data were double entered into EPI INFO (Version 3.3.2). All study procedures were approved by the Institutional Review Boards of Addis Ababa University, Awassa Health Sciences College, and Human Subjects Division of the University of Washington.

Variable Specification and Statistical Analyses

A total of 956 female and 1038 male students were included in this analysis. Students' depression status for the academic year was defined using the information that was collected from the PHQ questions. The scoring system described by Kroenke et al [17] was used to categorize students into the following groups: no depression (scores <10); moderate depression (scores 10-14), moderately severe depression (scores 15-19), and severe depression (scores ≥20). Students' history of witnessing parental violence was expressed as a dichotomous variable (no, yes). Other covariates were categorized as follows: age (16-18, 19-20, 21-23 and ≥24 years); college level (freshman, sophomore, junior, and senior); religious affiliation (Ethiopian Orthodox Christian, Protestant, Muslim and other); childhood residence (rural or urban); cigarette smoking status (no, yes); alcohol consumption (no, yes); use of khat (no, yes); and personal experience of GBV during the current academic year (female only: no, yes).

Bivariate statistical analytical methods were initially used to explore frequency distributions of participants' socio-demographic and lifestyle characteristics according to students' history of witnessing parental violence. Logistic regression procedures were used to determine the risk of depression and depressive symptoms in relation to a history of witnessing parental violence. Multivariable logistic regression models were constructed to calculate maximum likelihood estimates of odds ratios (OR) and 95% confidence intervals (95% CI) adjusted for confounders [18]. Confounders were defined as those covariates which altered unadjusted ORs by at least 10%. Because previous investigators have documented strong associations of witnessing parental violence with a personal experience with intimate partner violence among young women [1,19] a history of personal experience of gender-based violence was also evaluated as a potential confounder. Additional analyses were performed to evaluate the independent and joint (combined) effects of witnessing parental violence and personal history of being a victim of gender based violence on risk of depression and depressive symptoms among female students. For this analysis students were classified as follows: (0) no experience of gender-based violence and no experience of witnessing parental violence; (1) experienced gender-based violence but have not witnessed parental violence; (2) no experience of gender-based violence but have witnessed parental violence; (3) experienced gender-based violence as well as witnessed parental violence. Students reporting not having witnessed parental violence and who reported no personal experience of gender-based violence comprised the reference group for this analysis. Statistical analyses were performed using SPSS (version 14.0, SPSS Inc. Chicago, IL, USA) software. All reported p-values are two tailed, and confidence intervals were calculated at the 95% level.

Results

In this study population 22.7% (95% CI 20.0% -25.3%) of female students and 27.1% (95% CI 24.4%-29.8%) of male students reported witnessing parental violence during their childhood. Frequency distributions of those who witnessed parental violence and those who did not are presented in Table 1. Rural childhood residence, alcohol consumption, and experience of any GBV during current academic year (year of survey) were statistically significantly associated with witnessing parental violence among female students. Male students who witnessed parental violence, compared the those who did not, were more likely to be older, raised in rural settings, and to report using khat.

The prevalence of depression, of any severity, was higher among female students (65% vs. 48%). Male students, however, were more likely than female students to report witnessing parental violence as a child (58% vs.48%) (Table 2). There were considerable gender differences in the distribution of and prevalence of depressive symptoms (Figure 1). Notably, 25.3% of female students were classified as having moderate depression with an additional 11.5% classified as having moderately severe depression. The corresponding frequencies among male students were 15.8% and 5.5%, respectively.

Females students who witnessed parental violence were twice as likely to report moderate symptoms of depression (OR= 2.04; 95% CI 1.32-3.15) as compared with those who did not witness parental violence. Those who witnessed parental violence, as compared with those who did not, were 3-times as likely to report symptoms consistent with moderately severe depression (OR=3.02; 95% CI: 1.67 - 5.47). The corresponding ORs were 1.71 (95% CI 1.13-2.59) and 2.42 (95% CI: 1.41-4.13) for male students. Gender-specific associations of each of the 9 items of the PHQ-9 depression screening module are summarized in Table 3. Female students who witnessed parental violence were 2.4-times (OR=2.37; 95% CI 1.26-4.44) as likely to report feeling bad about themselves 2.6-times (OR=2.62; 95% CI 1.66-4.14) as likely to have trouble in concentrating compared with those who did not witness parental violence. Male students who witnessed parental violence were almost twice as likely to report having suicidal thoughts compared with their counterparts who did not witness parental violence (OR=1.97, 95% CI 1.16-3.34).

Table 4 describes the independent and joint effects of witnessing parental violence in childhood and experiencing gender-based violence during current academic year on depressive symptoms among female students. Female students who have both witnessed parental violence and experienced gender-based violence had a 2.9-fold (OR= 2.86; 95% CI :1.83–4.45) increased risk of showing symptoms of depression, compared to those who have not witnessed parental violence and experienced gender-based violence during the academic year.

Discussion

Approximately 22.7% female students and 27.1% of the male students reported witnessing parental violence as a child. Overall, female students reported more depressive symptoms than their male classmates. Students who witnessed parental violence as children were more likely to report symptoms consistent with moderate and moderately severe depression than those who did not witness parental violence.

Few investigators have studied the association between youths' history of witnessing parental violence and symptoms of depression [6,20-22]. Hindin and Gultiano [6], in their survey of Filipino adolescents, noted that those who witnessed parental violence were more likely to report symptoms of depression than those who did not. The authors reported that female respondents who witnessed either parent hurting the other had higher average

depression scores ($\beta=0.94$; 95% CI 0.55–1.33, p value=0.0001) than those who did not witness parental violence. Depression scores were noted to be further elevated among female adolescents who recalled one of their parents needing medical attention due to domestic violence 2.1 ($\beta=2.1$; 95% CI 1.35–2.85, p -value=0.0001). Similar associations were observed in analyses restricted to male adolescents[6]. Silvern et al [22] also reported positive associations of symptoms of depression with witnessing violence as a child. In the present study, we found that males who witnessed parental violence were almost twice as likely to report having suicidal thoughts compared with their counterparts who did not witness parental violence. Our results are consistent with those from other studies [20,23,24].

We noted that female students who witnessed parental violence were 2.4-times as likely to report a poor self-image and 2.6-times as likely to have trouble in concentrating compared with those who did not witness parental violence. Our observations are in general agreement with finding from previous studies [21,22,25]. Silvern et al [22], in their study of 550 undergraduate students noted that witnessing violence as a child was associated with increased risks of depression, trauma-related symptoms, and low self-esteem. Munni and Malhi [25], in their study of South Asian high school students, reported that those exposed to violence had poorer school performance and adjustment scores [25]. Similarly, Henning et al found women who had witnessed domestic violence as children were more distressed and had more social adjustments problems than women who did not witness domestic violence [21]. Collectively, these data suggest that exposure to domestic violence has long lasting effects on children and young adults.

Available data suggest that females with a joint history of witnessing parental violence as a child and who are themselves victims of gender based violence are particularly susceptible to depression and depressive symptoms. Berenson et al [20], reported that US adolescents who witnessed and experienced violence had a 3-fold increased risk of suicidal ideation ($OR=3.19$ 95% CI 2.2–4.0) than those who had neither witnessed nor experienced violence. These findings, coupled with our observation of a 2.9-fold increased risk of depression among female students who witnessed parental violence and who were themselves victims of gender based violence ($OR= 2.86$; 95% CI 1.83–4.45) in the present study, suggests a critical need for prevention and intervention strategies to help alleviate the burden of violence borne by female college students.

Despite considerable heterogeneity, with regards to research designs, study population characteristics, and assessment instruments used, results from our study, and those of others [6–10] indicate that children and young adults who witness parental violence or domestic violence, as compared with those who do not, are more likely to experience symptoms of depression and exhibit a host of social, behavior and emotional problems [7,26].

Some limitations must be considered when interpreting the results of our study. First, the cross-sectional design of the study precludes causal inference. Second, data were collected using a self-administered questionnaire, which may have led to non-systematic errors in recall of personal experience with gender-based violence, as well as systematic nondisclosure. However, use of the validated WHO-questionnaire and, that all questionnaires were completed anonymously served to mitigate, in part, these concerns. Third, the PHQ-9 instrument used to assess depressive symptoms has not previously been validated in the present study population. The PHQ-9 instrument, however, have been used widely to estimate the prevalence of depressive symptoms in community-based settings around the world [14,27]. Investigators have reported that the measurement of depression in international contexts may be undertaken with similar instruments in different cultural settings, provided care is taken to ensure an adequate translation and validation of the cut-off

score [28]. Adewuya and colleagues [29] in their study of Nigerian university students reported that the PHQ-9 is a valid and useful instrument in screening for depression in their settings. Additionally the PHQ-9 has been used successfully by Omoro and colleagues [30] in their study of Kenyan cancer patients. Lastly, the study did not account for other types of violence that students may have witnessed. Future studies which incorporate a more comprehensive measures of exposure to domestic and community-based violence, as well as more rigorous measures of specific types, frequencies and severity of mood and anxiety disorders are warranted, particularly in countries with well documented high frequencies of gender-based violence [1,5].

Overall, findings from our study of Ethiopian youths, and those reported by other investigators, [6-10] consistently indicate increased risks of depression, depressive symptoms, social, behavior and emotional problems among youths and young adults who witness parental violence. Considerable additional research is required to guide the development of effective intervention and treatment programs that promote mental health [2]. Intervention programs focused on domestic violence must also address the needs of young adults who have witnessed domestic violence. School-based counseling services may be one modality for addressing the needs of youths exposed to violence.

Key Points

- Witnessing parental violence is associated with symptoms of depression, lower self esteem and suicidal ideation among college students
- Intervention programs focused on gender-based violence must also address issues concerning witnessing parental violence during childhood.
- Counseling and treatment methods for college students at risk for depression are needed
- Additional research is required to guide the development of effective intervention and treatment programs that promote mental health among college students

Acknowledgments

This research was completed while Ms. Semret Nicodimos was a research training fellow with the Multidisciplinary International Research Training (MIRT) Program of the University of Washington, School of Public Health. The MIRT Program is supported by an award from the National Institutes of Health, National Center on Minority Health and Health Disparities (T37-MD001449). The authors wish to thank Addis Continental Institute of Public Health for providing facilities and logistics support throughout the research process.

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Figure 1.
Percentages of students reporting symptoms of depression several weeks during past year, more than half of past year and nearly the whole year by gender

Table 1

Demographic characteristics of students according to their history of witnessing parental violence

Characteristics	Female witnessed parental violence		Male witnessed parental violence	
	Yes (N=217) n (%)	No (N=739) n (%)	Yes (N=281) n (%)	No (N=757) n (%)
Age (yr)				
16-18	24 (11.1)	106 (14.4)	*27 (8.9)	76 (9.3)
19-20	105 (48.6)	347 (47.1)	89 (29.3)	318 (39.1)
21-23	54 (25.0)	203 (27.5)	114 (37.5)	286 (35.1)
>23	33 (15.3)	81 (11.0)	74 (24.3)	134 (16.5)
College education level				
Freshman	92 (42.8)	318 (43.2)	*107 (35.3)	332 (40.6)
Sophomore	51 (23.7)	189 (25.7)	71 (23.4)	138 (16.9)
Junior	58 (27.0)	182 (24.7)	85 (28.1)	200 (24.5)
Senior	14 (6.5)	47 (6.4)	40 (13.2)	147 (18.0)
Religion				
Orthodox	115 (53.2)	410 (55.9)	149 (49.2)	444 (55.0)
Protestant	73 (33.8)	232 (31.7)	106 (35.0)	237 (29.3)
Muslim	12 (5.6)	52 (7.1)	20 (6.6)	70 (8.7)
Other	16 (7.4)	39 (5.3)	28 (9.2)	57 (7.1)
Childhood residence				
Urban	*148 (69.6)	582 (79.2)	*131 (43.1)	438 (54.3)
Rural	66 (30.8)	153 (20.8)	173 (56.9)	368 (45.7)
Khat chewing				
Yes	30 (14.2)	88 (12.5)	*109 (36.2)	226 (28.4)
Smoking				
Yes	8 (3.8)	26 (3.8)	41 (14.3)	98 (12.6)
Alcohol drinking				
Yes	*54 (26.0)	132 (19.3)	149 (51.9)	366 (47.0)
Experienced GBV during current year				
Yes	*114 (54.5)	236 (34.7)	--	--

* P-value<0.05

Table 2

Depressive symptoms among students who witnessed Parental Violence

Severity of Depressive Symptoms	Female witnessed parental Violence		Male witnessed parental violence	
	Yes (N=217)	No (N=739)	Yes (N=281)	No (N=757)
None	35.5	51.8	42.0	51.9
Mild depression	25.8	25.4	28.8	27.2
Moderate depression	25.3	15.8	17.1	12.9
Moderately severe depression	11.5	5.5	10.3	5.4
Severe depression	1.8	1.4	1.8	2.5

Table 3

Adjusted odds ratio (OR) and 95% confidence intervals (CI) of depression and depressive symptoms in relation to history of witnessing parental violence

Depressive symptoms questions during current academic year	Female Students N=217 Adjusted OR (95% CI)	Male Students N=281 Adjusted OR (95% CI)
Severity of depressive symptoms		
None	1.00 (Reference)	1.00(Reference)
Mild Depression	1.43 (0.94 - 2.16)	1.43 (1.02 - 2.01)
Moderate Depression	2.04 (1.32 - 3.15)	1.71 (1.13 - 2.59)
Moderately Severe Depression	3.02 (1.67 - 5.47)	2.42 (1.41 - 4.13)
Severe Depression	1.95 (0.58 - 6.58)	1.00 (0.36 - 2.82)
Little interest or pleasure in doing things		
Never	1.00 (Reference)	1.00(Reference)
Several weeks during past year	1.63 (1.11 - 2.39)	1.13 (0.81 - 1.57)
More than half of the past year	1.59 (0.93 - 2.74)	1.15 (0.73 - 1.81)
Nearly the whole year	1.52 (0.88 - 2.63)	1.08 (0.66 - 1.77)
Feeling down, depressed, or hopeless		
Never	1.00 (Reference)	1.00(Reference)
Several weeks during past year	1.58 (1.06 - 2.36)	1.42 (0.97 - 2.07)
More than half of the past year	1.63 (1.01 - 2.63)	1.70 (1.13 - 2.54)
Nearly the whole year	1.78 (1.06 - 2.99)	1.54 (0.96 - 2.47)
Trouble falling or staying asleep		
Never	1.00 (Reference)	1.00 (Reference)
Several weeks during past year	1.42 (0.95 - 2.13)	0.76 (0.52 - 1.11)
More than half of the past year	0.72 (0.39 - 1.34)	1.85 (1.18 - 2.91)
Nearly the whole year	2.38 (1.50 - 3.78)	1.15 (0.75 - 1.78)
Feeling tired or having little energy		
Never	1.00 (Reference)	1.00 (Reference)
Several weeks during past year	1.18 (0.80 - 1.75)	1.08 (0.76 - 1.53)
More than half of the past year	1.30 (0.77 - 2.19)	1.47 (0.92 - 2.33)
Nearly the whole year	1.17 (0.67 - 2.04)	1.62 (1.02 - 2.58)
Depressive symptoms questions during current academic year		
	Female Students N=217 * Adjusted OR (95% CI)	Male Students N=305 ** Adjusted OR (95% CI)
Poor appetite or overeating		
Never	1.00 (Reference)	1.00(Reference)
Several weeks during past year	0.95 (0.61-1.47)	1.03 (0.72 - 1.48)
More than half of the past year	1.31 (0.79-2.18)	1.87 (1.17 - 3.00)
Nearly the whole year	0.83 (0.44-1.57)	1.26 (0.79 - 2.03)
Feeling bad about self		
Never	1.00 (Reference)	1.00 (Reference)

	Female Students N=217 Adjusted OR (95% CI)	Male Students N=281 Adjusted OR (95% CI)
Depressive symptoms questions during current academic year		
Several weeks during past year	1.89 (1.16 - 3.08)	1.31 (0.82 - 2.08)
More than half of the past year	2.05 (1.19 - 3.53)	1.62 (0.93 - 2.82)
Nearly the whole year	2.37 (1.26 - 4.44)	1.50 (0.88 - 2.57)
Trouble concentrating		
Never	1.00 (Reference)	1.00 (Reference)
Several weeks during past year	1.36 (0.85 - 2.18)	1.23 (0.85 - 1.79)
More than half of the past year	1.71 (1.01 - 2.90)	1.88 (1.18 - 3.00)
Nearly the whole year	2.62 (1.66 - 4.14)	1.12 (0.72 - 1.74)
Moving or speaking slowly		
Never	1.00 (Reference)	1.00 (Reference)
Several weeks during past year	1.16 (0.69 - 1.95)	1.30 (0.88 - 1.92)
More than half of the past year	1.92 (1.16 - 3.18)	1.56 (0.95 - 2.55)
Nearly the whole year	2.07 (1.23 - 3.49)	2.35 (1.47 - 3.77)
Thoughts of being better off dead		
Never	1.00 (Reference)	1.00 (Reference)
Several weeks during past year	1.47 (0.92 - 2.36)	1.24 (0.79 - 1.95)
More than half of the past year	2.53 (1.57 - 4.07)	1.97 (1.16 - 3.34)
Nearly the whole year	1.60 (0.86 - 2.97)	1.93 (1.11 - 3.34)

* Adjusted for participants' age (years), childhood residence (urban and rural), alcohol consumption (yes and no) and experience of gender-based violence during current year (yes, no).

** Adjusted for participants' age (years), childhood residence (urban and rural) and khat use (yes and no).

Table 4

Risk of depression* according to history of witnessing parental violence and or personal experience with gender based violence (GBV)

Victim of GBV and witnessed parental violence	*Adjusted OR (95% CI)
None	1.00 (Reference)
GBV only	1.15 (0.79 - 1.68)
Witnessed violence only	1.32 (0.81 - 2.17)
GBV and witnessed violence	2.86 (1.83 - 4.45)

* Depression is expressed as dichotomous variable (none and mild depression versus moderate, moderately severe, and severe depression)

** Adjusted for age, childhood residence, and alcohol consumption.