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Research Article

Symptoms of Post-Traumatic Stress Disorder and Depression among Individuals in a Post Conflict in Oyam District, Uganda

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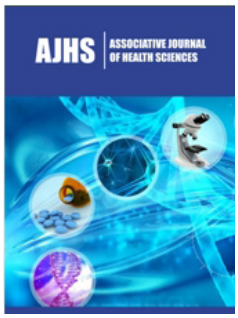

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Abstract

Objectives: The civilian population of Northern Uganda experienced high levels of violence and trauma during the 20-year conflict between the Lord Resistance Army and the Ugandan military. The objective of the study was to determine the prevalence of post-traumatic stress disorder (PTSD) and depression symptoms of men and women, age 18 and older post conflict in Oyam district in Northern Uganda.

Methods: A cross-sectional study of adults was conducted. Participants were randomly selected from six sub-counties within Oyam. The study population were 166 men and women, aged 18 years and older. Validated screening tools, the CES-D, THQ and PTSD-8 were used to collect data on PTSD, depression symptoms, and exposure to trauma.

Results: 39.2% of the study population met PTSD-8 symptom criteria for PTSD. 41.6% of participants met the symptom criteria of severe depression and 18% for moderate depression. 12.6% of participants had experienced war related traumatic events. No significant difference between male and female in war exposure and developing symptoms of PTSD or depression was found.

Conclusion: The study found a high prevalence of PTSD and depression symptoms in Oyam district. The study did not identify a gender difference in the prevalence of PTSD or depression symptoms, which might indicate a shift of gender role in Oyam. Additional research on gender gap and PTSD and depression is recommended. Health programs should address the significant mental health needs of the population of Northern Uganda.

Background

Post-traumatic stress disorder (PTSD) and depression are often associated with violence and war [1]. Uganda experienced a long history of civil war violence. After independence in 1962, the country was plagued with multiple violent conflicts, which often their roots in problems had caused by colonialism. The Lord's Resistance Army (LRA) insurgency, and ongoing guerrilla campaign since 1987, caused a humanitarian crisis which especially affected the people of Northern Uganda. During the 20-year conflict, civilians suffered indiscriminate killings, assaults, abduction of children to become fighters, forced laborer and sexual servitude [2]. Approximately 2 million people in Northern Uganda fled their homes and lived in internally displaced (IDP) camps [2]. It is estimated that each week, up to 1,000 people died in the camps from treatable illness, such as malaria and diarrhoea [2]. In the camps, the crude mortality rate was above 1 per 10,000 per day, which is an indicator of a humanitarian emergency [2,3]. Women and children faced sexual and domestic violence within the camps including rape, defilement, child molesting, and forced widow inheritance [4,5]. Chronic malnutrition affected up to 48% of children in some districts in northern Uganda [3]. The HIV rate was 11.3%, almost twice the national average [3]. While the LRA has moved its activities to the Democratic Republic of Congo and the Central African Republic and is currently no longer considered as a serious threat in Uganda, the civilian population are still affected by those traumatic experiences.

According to previous limited surveys, the prevalence of PTSD in Northern Uganda varies significantly ranging from 11% to 54%, and for depression from 17% to 67% [6,7]. This study was conducted to determine the current prevalence ratio of individuals with post-traumatic stress disorder or depression symptoms in post conflict Oyam. Oyam is located in Northern Uganda and it was deeply affected during the civil war. It might also provide a better understanding of the associations between mental illness, sociodemographics and traumatic events. The result might useful to plan mental health intervention to assist affected populations.

Study Design and Methods

A cross-sectional study was conducted to evaluate the prevalence of PTSD and depression symptoms among the civilian population in Oyam district in Northern Uganda. Six sub-counties within Oyam were randomly selected to collect data: Loro, Iceme, Acaba, Aber, Kamdini and Oyam Town Council. The study population included men and woman, age 18 years and older. Demographics were collected using questionnaires from the Uganda Demographic Health Survey 2016 [8]. Questions were drawn from Demographic and Health Surveys Program of the United States Agency for International Development (USAID) and were modified by the Uganda Bureau of Statistics to reflect population issues relevant to Uganda [8].The three instruments used were the Center for Epidemiologic Studies- Depression Scale (CES-D), the Trauma History Questionnaire (THQ) and the Posttraumatic Stress Disorder 8 items (PTSD-8). CES-D is a short self-report scale designed to measure depressive symptomatology in the general population [9]. The THQ identifies exposure to trauma events. Based on the THQ, the studied definition of "war related events" included engagement in combat; having acquired life-threatening illness as the result of the war; seen someone seriously injured or killed; having handled dead bodies; having experience loss of a close relative, defined as spouse, romantic partner or child; and having experience unwanted intercourse due to the war. The THQ has been used both nationally and internationally in a range of studies conducted in the past 15 years [10]. PTSD-8 is a short self-report instrument to screen for PTSD [11]. Data analyses were generated using SAS software, University Edition. Institutional review board approval was obtained from Gulu University's Research Ethics Committee. Community consent and individual informed consent was obtained.

Results

The final study population included 166 participants, 86 male and 80 female, between the ages of 18 and 78 years from six sub-counties within Oyam: Loro, Iceme, Acaba, Aber, Kamdini and Oyam Town Council. Table 1 shows the demographic characteristics of the participants. Over half of the participants were married and 57% of them were farmers. 53% of the study participants had a personal income of less than 25,000ugx per month (approximately 6.8USD) the previous month. The World Bank defined extreme poverty as living on less than $1.90 per day [12]. By the World Bank definition, any monthly personal income under 210,000ugx is below the poverty line.

Table 1: The demographic characteristics of the participants (N=166).

Characteristics		Number (%)
Gender	Male	86(51.8)
	Female	80(48.2)
Sub-Country	Loro	29(17.5)
	Iceme	31(18.7)
	Acab	21(12.7)
	Aber	28(16.9)
	Kamdini	24(14.5)
	Oyam Town Council	33(19.9)
Age, mean		32.2 years
Educational background	Primary	44(26.5)
	Secondary	77(43.4)
	Tertiary	33(19.9)
	College/Degree	8(4.8)
	Did not attend school	4(2.4)
Marital Status	Currently Married	83(50)
	Separated/divorced/widowed	34(20.5)
	Single	40 (29.5)

Occupation	Student	18 (10.8)
	Farmer	94 (56.6)
	Civil servant	15(9)
	Teacher	3(1.8)
	Medical worker	4(2.4)
	Unemployed	10(6)
	Other	22(13.3)
Personal Income of previous month*	<25,000ugx	88(53)
	25,000-50,000ugx	24(14.5)
	>50,000ugx	35(21.1)
	Refuse to answer	19(11.5)
Number of children	0	61(36.8)
	1-3	54(32.5)
	4-6	35(21.1)
	≥7	16(9.6)
*ugx is the Uganda shillings At the time of survey (August 2019), 1USD=3680ugx		

Table 2: War exposure and post-traumatic stress disorder or depression symptoms (N=166).

Number (%)		
Exposed to war related traumatic events	Yes	21(12.6)
	Male	12(7.2)
	Female	9(5.4)
	No	145(87.4)
Met PTSD-8 symptoms criteria for PTSD	Yes	65(39.2)
	Male	32(19.3)
	Female	33(19.9)
	No	101(60.8)
Scores of (CES-D) scale	0-15 (No to mild)	67(40.4)
	16-23 (Moderate)	30(18)
	Male	17(10.2)
	Female	13(7.83)
	24-60 (Severe)	69(41.6)
	Male	36(21.7)
	Female	22(19.9)

The results on exposure to war related events, and prevalence of PTSD and depression symptoms are shown in Table 2. Approximately 13% of participants reported to have experienced war related events. 39% of the study population met PTSD-8 symptoms criteria for PTSD. More than 40% of participants met the symptoms criteria of severe depression and 18% for moderate depression. Logistic regression analysis was used to investigate the relationship between war related traumatic events and symptoms of PTSD and depression. The results are shown in Table 3. There was no significant variation between gender in exposure to war related traumatic events (p=0.45). Further, there is no evidence that war events affect PTSD differently in male and female. Among all the variables, having experienced war related events had the strongest association with PTSD (p=0.0083). There was no association between gender and symptoms of depression. Females and males had the same chances of having symptoms of depression (p=0.8893). The study found a weak positive correlation between age and the odds of developing depression symptoms. Age was significant and had an association with depression (p=0.0172).

Table 3: Different variables interactions with PTSD and depression symptoms.

Effect	PTSD symptoms (p-value)	Depression symptoms (p-value)
Gender	0.3246	0.8893
War	0.0083	0.3263
War and gender interaction	0.451	0.825
Age	0.1801	0.0172

Discussion

This study shows that 12.6% of the population of Oyam district experienced war trauma. An association between exposure to war events and symptoms of PTSD was found. 39.2% of the study population met the symptoms criteria for PTSD. The discrepancy that 39.2% of the study population had PTSD symptoms but only 12.6% of the population reported experienced "war related events", indicates that participants might have been exposed to other traumatic events beside war exposure. Or, probably more likely, participants were not associating the events that caused PSTD directly with war. For example, a woman who was raped by a fighter would associate it with sexual violence but not with "war related events". Based on the participants' answers for the Trauma History Questionnaire (THQ), general disaster and sexual violence were the most mentioned traumatic events, more than exposure to war! War related events probably "camouflaged" as general disaster and sexual violence.

On the other hand, general disaster and sexual violence probably did contribute independently towards PTSD symptoms. With the tools used it was difficult to identify the trigger that led to PTSD and depression symptoms. Questionnaires should be adjusted to better discriminate between specific traumatic triggers. The study did not find a significant difference between male and female gender regarding war exposure and developing symptoms of PTSD or depression in Oyam district in Northern Uganda. Studies in the United States had shown that females are approximately twice as likely to suffer from PTSD and have higher rates of major depression than male [13-15]. A study from Germany found that while males experienced more traumatic events than females, males are less likely to develop symptoms of PTSD than females [16]. A meta-analysis on gender-specific risk of traumatic events and PTSD suggested that gender differences in traumatic events do exist in most populations [14]. PTSD tends to be triggered by different events in males and females. Events causing PTSD in males include accidents, nonsexual assaults, natural disaster and war [14]. In females, the two leading events to cause PTSD are sexual assault and child abuse [14]. One possible explanation that the study did not find a gender difference is that during the war in Northern Uganda both genders experienced similar types of traumatic events, such as killings, assaults and forced servitudes.

There is no evidence to support an association between sociodemographic factors and symptoms of PTSD or depression in Oyam district. Income overall was very low, and the great majority of the population lived in an extreme poverty according to the definition of the World Bank. This study found incidence rate of PTSD and depression symptoms of 39% and 60% in Oyam distract. A previous study reported that in Gulu and Amuru districts, 54% of the study population have PTSD symptoms and 67% have depression symptoms [2]. A large study that investigated 14 districts in Uganda, including both war affected and not war-affected areas, found prevalence of depression of 29% in the overall population [17]. In general, depression rate fluctuates among different districts in Uganda and the prevalence rate was higher in Northern Uganda. The prevalence of PTSD symptoms of 39.2% that found in this study is very high comparing to 1% to 6% across the world [18-20]. The population in Northern Uganda is in need of mental health services. According to an assessment of Uganda's mental health care system by the World Health Organization, only 0.8% of the doctors and 4% of nurses had specialized in psychiatry [21]. In Uganda, mental health has a low priority compared to other health issues and therefore, mental health program receives very little support [22]. There are also no sources of funding for research [22]. The World Health Organization projected depression will be the leading cause of disease burden in 2030 [23].

In conclusion, the study shows a high prevalence of PTSD and depression symptoms in Oyam districts. The population of northern Uganda is in need of treatment for mental health symptoms. The authors recommend additional research in the gender difference and funding for programs implementation.

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