



PREVALENCE OF POST-TRAUMATIC STRESS DISORDER AND SYMPTOMS MANIFESTATION ACROSS DEMOGRAPHIC VARIABLES AMONG INTERNALLY DISPLACED PERSONS IN JOS, NIGERIA.

Gyang T. Rwang¹, Grace M. Kibanja², and Kajumba M. Mayanja²

¹Department of Psychology, Faculty of Social Sciences, Plateau State University, Bokkos,
Nigeria. Email: tonygyang300@gmail.com +2348033346777

²School of Psychology, Makerere University, Kampala, Uganda.

Abstract

Post-traumatic Stress Disorder (PTSD) affects functioning in the three domains of cognitive, occupational, and social functioning. Such studies among IDPs in Nigeria are sparse. This study aims to assess the prevalence of PTSD as well as its manifestation in the three clusters of intrusion, avoidance, and hypervigilance against demographic characteristics of age, gender, marital status, and educational level following clashes between Fulani herdsmen and Berom ethnic group in Jos, north central Nigeria. A cross-sectional study design was used to systematically select 248 adult IDPs aged 18 years and above. The DSM-IV PTSD-8 inventory structured scale questionnaire was used to screen for PTSD symptoms. A cross tabulation analysis of PTSD and the demographic variables was performed. The result revealed that the prevalence of PTSD was 85.5% in all participants. There was a significant relationship between gender and intrusion ($\chi^2 = 21.787$, $P = 0.0005$), avoidance ($\chi^2 = 14.754$, $P = 0.005$), and hypervigilance ($\chi^2 = 8.229$, $P = 0.0004$). Age, was also significant with intrusion ($\chi^2 = 27.872$, $P = 0.0005$), and avoidance ($\chi^2 = 16.158$, $p = 0.006$); with no significant relationship between hypervigilance symptoms ($\chi^2 = 10.743$, $P = 0.057$). There was a significant relationship between marital status and intrusion ($\chi^2 = 131.617$, $p = 0.0005$); avoidance ($\chi^2 = 12.316$, $P = 0.002$); and intrusion ($\chi^2 = 29.771$, $P = 0.0005$). There was a significant relationship between educational level and intrusion ($\chi^2 = 23.617$, $P = 0.0005$); avoidance ($\chi^2 = 12.825$, $P = 0.005$); and hypervigilance ($\chi^2 = 14.914$, $P = 0.002$). It is essential that community based mental health care services and psychological support be provided to IDPs so as to get some relief and to prevent further complications associated with PTSD.

Key words: Avoidance, Berom, Fulani herdsmen, hypervigilance, intrusion, posttraumatic stress disorder

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Introduction

Internal displacement subsequent from both man-made and natural causes has been one critical issue that has attracted the attention of the international community. The consequences of internal displacement on the displaced persons themselves as well as the local authorities and the communities that host them can be repulsive (Alobo & Obaji, 2016). Extant studies have shown that persons displaced as a result of conflicts are at greater risk of mental disorders including Post-Traumatic stress disorder (Owaoje, Uchendu, Ajayi, & Cadmus, 2016). Persons who experience or witness traumatic events such as natural disasters, serious accidents, terrorist acts, war/combat, rape, or have been threatened with death, sexual violence, or severe injury could be categorized as those suffering from PTSD (American Psychiatric Association, 2013). In addition, the disorder is characterised by constant distortion in cognitions about the cause or consequences of the traumatic event (s) which may lead to the individual blaming him/her self or others, feeling of continual negative emotional state (e.g fear, horror, anger, guilt, or shame), lack

of interest or participation in important activities (APA, 2013).

Extant studies by scholars such as Madoro, Kerebih, G/Tsak, Mokona, Molla, & Yohannes, (2020) in South Ethiopia have established that displaced persons who experience different traumatic events which can have debilitating consequences in terms of physical and mental health outcome. Statistical estimates have shown that PTSD is between 1% and 5% in studies conducted with the general population following chronic political violence among Palestinians (Hobfoll, Macini, Hall, Canetti, & Bonanno, 2008). To support this, other scholars from the western world including Creamer, Burgess, & Alexander, (2001) had earlier reported a prevalence of PTSD of 1.1% among the general population in Australia. Also, Kessler, Sonnega, Bromet, Hughes, & Nelson, (1995) reported a prevalence of 7.8% PTSD in the United States of America.

Studies in Sub-Saharan African post-conflict and conflict-ridden countries like Uganda, Democratic Republic of Congo (DRC), South Sudan, Somalia, Rwanda, Ethiopia, and many more have documented

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that PTSD has remained a mental health concern several years of the conflicts (Onyut, Neuner, Ertl, Schauer, Odenwald, & Elbert, 2009). The general prevalence rate of PTSD among IDPs in Sub-Saharan Africa has been estimated at 42% to 52% with reference to Nigeria (Owoaje et al., 2016). In African countries notably Uganda ravaged by war, Roberts, Ocaka, Browne, Oyok, & Sondondorp, (2008) found a PTSD prevalence of 54% among IDPs in Gulu and Amuru districts of northern Uganda. Factors attributable for the high PTSD prevalence included: gender, marital status, and distance from displacement, experiencing ill health without medical care, experiencing sexual abuse, lack of food or water, and experiencing high rates of trauma exposure among others. In south Ethiopia, a PTSD prevalence of 58.4% was also documented by Madoro et al. (2020) in their study with 625 displaced persons who witnessed the killings of their family members, destruction of personal properties among others. In Nigeria, the situation is not different as previous studies have documented incidences of PTSD among IDPs. For instance, Sheikh,

Mohammed, Esegbe, Adekeye, Nuhu, Lasisi, Muhammad, Sulaiman, Abdullateef, Hayyatudeen, & Akande, (2016) investigated and established the prevalence of PTSD among child and adolescent IDPs in Kaduna, north western Nigeria following a post-election violence which occurred in that state. In a related study Taru, Bamidele, Makput, Audu, Philip, John, Yusha'u, & Annah, (2018), reported a high PTSD prevalence of 63% among displaced youth who were exposed to the atrocities of Boko Haram terrorists in north eastern Nigeria. Factors attributable for the high rate of PTSD among most of the IDPs included: low educational status, marital status, unemployment, and level of income before displacement. Recently, Aluh, Okoro, & Zimboh, (2019) also documented a PTSD prevalence of 78% among the 1200 IDPs studied across six camps in Maiduguri, north east Nigeria. From these findings, it is evident that victims of war, conflicts, and displacement in most Sub-Saharan African countries are prone to develop PTSD.

While existing studies have established that PTSD severity affects

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functioning in the three main domains of cognitive, occupational, and social functioning, research on cognitive impairments on trauma and PTSD has not yielded any agreement as to which of the cognitive domains are most affected (Twamley, Allard, Thorp, Norman, Cissell, Berardi, Grimes, & Stein, 2009). However, previous studies have focused more on intellectual functioning (Vasterling, Duke, Brailey, Constans, Allain, & Sutker, 2002), attention/working memory (Horner & Hamner, 2002; Samuelson, Neylan, Metzler, Lenoci, Rothlind, Henn-Haase, Choucroun, Weiner, & Marmar, 2006; Stein, Kennedy, & Twamley, 2002; (Vasterling et al., 1998; Vasterling et al., 2002), processing speed (Samuelson et al., 2006; Stein et al., 2002), learning (Horner & Hamner, 2002; Samuelson et al., 2006; Vasterling et al., 1998; (Vasterling et al., 2002), and executive functioning (Bremner, Eric Vermetten, Vythilingam, Afzal, Schmahl, Elzinga, & Charney, 2004; Leskin & White, 2007). In the occupational domain, Erbes, Kaler, Schult, Polusny, & Arbisi, (2011) found that returning veterans from Iraq with PTSD

exhibited higher rates of work deterioration compared to other mental health diagnosis. Other scholars have also documented that persons with PTSD experience occupational impairment resulting to their inability to return to work, difficulty in readjusting to redeployment (Breslau, 2001; Hull, Alexander, & Klein, 2002). Related to social functioning of persons with PTSD, findings revealed that Vietnam veterans with PTSD were both less educated, more likely to be unemployed and tend to report difficulties in their marital and family functions (Jordan, Marmar, Fairbank, Schlenger, Kulka, Hugh, & Weiss, 1993). Married couples in particular the women are more prone to PTSD intrusion symptoms than others probably because of their enormous responsibilities as nursing mothers, and taking care of the entire household (Roberts et al., 2008).

This study is guided by the Cognitive behavioral model of PTSD propounded by Ehlers and Clark (2000) to explain the manifestation of PTSD among IDPs. The model is anchored on the assumption that trauma survivors such as IDPs continue to

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experience persistent trauma due to the way they assess the traumatic events which they experience and how the assessment leads to severe current threat (Ehlers & Clark, 2000). The theorists maintain that cognitive processing plays a significant role in how people approach future life situations. The cognitive behavioural model of PTSD is relevant to this study because most IDPs who witnessed the killing, abduction, torture, rape, of their loved ones, or were sexually assaulted themselves are liable to be exposed to trauma.

Statement of the Problem

Most studies on PTSD in Nigeria have been conducted with IDPs living in camps following displacement by the Boko Haram insurgents in the north eastern part of the country. These studies have often focused on the provision of humanitarian aids such as food, clothes, temporary shelter distributed to the IDPs while issues related to IDPs' mental health have not been adequately addressed (Okon, 2018). This study was therefore conducted with victims of Fulani herdsmen and farmers' clashes in Jos, north central part of Nigeria which seems to be the major

security challenge the country is presently overwhelmed with. This study was conducted with reference to victims of herdsmen-farmers' clashes in Jos, Nigeria. This study was not only to assess the prevalence of PTSD, but to also investigate the manifestation of PTSD across the 3 PTSD symptom clusters across age, gender, marital status, and level of education.

The study was not only to assess the prevalence of PTSD, but also to examine the manifestation of PTSD symptom clusters of intrusion, avoidance, and hypervigilance across the demographic variables of age, gender, marital status, and level of education. The study also assessed the relationship between demographic variables and PTSD symptom clusters.

Hypotheses

The following hypotheses were tested in the study:

1. There is the likelihood that there is a significant high prevalence of PTSD among IDPs in Jos.
2. There is a significant manifestation of PTSD symptom clusters (intrusion, aversion, and hypervigilance) among IDPs in Jos.

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3. There will be a significant relationship between demographic characteristics and PTSD cluster symptoms among IDPs in Jos.

METHOD

Design

We conducted a cross-sectional quantitative survey study to examine PTSD prevalence among IDPs in Jos, Nigeria and how PTSD is manifested in the three main symptom clusters of intrusion, avoidance, and hypervigilance among IDP as obtained in a DSM-IV, (APA, 2000). The quantitative approach was employed because the research problem and objectives could easily be quantified through numerical data that can be transformed into measurable statistics and make generalisation from a larger population (Connolly, 2007).

Participants

A total of 248 IDPs comprised of adult men and women aged 18 years and

above participated in this study ($M = 41.5$ years, $SD = 15.2$ years, Range = 18- 69 years). Of the 248 IDPs, 162 (65.3%) were females, and 86 (34.7%) males. 152(61.3%) of the participants were married, while 44(17.7%) were single. Widowed participants were 51(20.6%), while there was only one divorcee (0.4%). Majority of the participants 100 (40.3%) had secondary education, 70 (28.2%) with primary school education. 29 of the participants representing (11.7%) had diploma certificates, 11 participants with university degrees, and representing (4.4%) of the study participants, while those with adult education were 38 in number constituting (15%). The phrases “participants” and “IDPs” are interchangeably used in this study to refer to victims of herders and farmers’ conflicts. Table 1 shows the details of participants’ demographic characteristics.

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Table 1: Demographic Characteristics of Study Participants

	Frequency	Percentage (%)
Age		
18-27yrs	46	18.5
28-37yrs	65	26.2
38-47yrs	59	23.8
48-57yrs	40	16.1
58-67yrs	24	9.7
68 and above	14	5.6
Total	248	100
Gender		
Male	86	34.7
Female	162	65.3
Total	248	100
Marital Status		
Single	44	17.7
Married	152	61.3
Widowed	51	20.6
Divorced	1	.4
Total	248	100
Level of Education		
Adult Education	38	15.3
Primary School	70	28.2
Secondary School	100	40.3
Tertiary Education	29	11.7
University	11	4.4
Total	248	100

Sampling Technique

We used a systematic random sampling technique to select the participants for this study. A Sampling interval of 10 was determined by dividing population by size. A sampling frame was created from the list of all registered IDPs in the camp obtained from the camp commandant. IDPs that were < 18 years of age were excluded in the study. First participant in position 2 were selected

from among the first 10 using simple random sampling. Subsequent participants were chosen at position 10 IDPs from the previous participants until the required sample size of 248 was reached.

Measurement

PTSD-8 Inventory scale

We utilized the PTSD-8 inventory instrument in the measurement of PTSD symptoms. The PTSD-8 inventory scale developed by

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Hansen, Anderson, Armour, Palic, & Mackrill (2010). The scale has eight items for assessing PTSD. The scale covers all the three PTSD symptom clusters of intrusive symptoms, numbing/avoidance symptoms, and hypervigilance symptoms corresponding to the *Diagnostic and Statistical Manual for Mental Disorders* (DSM- IV, APA, 2000) and contains a four- point likert scale options (1= “Not at all”/2= “Rarely” /3= “Sometimes” and /4= “Most of the time”). Scoring of the PTSD-8 is based on three PTSD symptom clusters as obtained in DSM- IV (intrusion items 1-4, avoidance items 5-6, and hypervigilance, 7-8). In order to meet the PTSD-8 criterion, participants must be endorsed with at least one item from the eight symptoms. A score of ≥ 3 shows endorsement of positive symptom on any of the items marked as “sometimes” or “most of the time”. A score of < 3 indicates the absence of PTSD symptoms on any of the items. The instrument has been validated in samples of rape survivors, whiplash patients, and survivors of disasters (Hansen et al., 2010).

Procedure

Approval to embark on the study was granted by the authorities of the Geosciences IDP camp. After informed due consent procedures, Participants completed a brief demographic questionnaire and a DSM-IV self-report structured questionnaire in screening PTSD symptoms. Participants were duly informed that the purpose of the study was strictly academics; hence data collected will not be divulged to the public or a third party. The study participants individually consented to partake in the study and were also assured of their confidentiality and anonymity. Data collection took place within a period of 15 days while data processing and analysis lasted for 6 weeks and 10 days respectively. Data was collected between November and December 2018, six months after the June 2018 crisis in Jos between Fulani herdsmen and Berom farmers. No financial or material inducement was given to the study participants.

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Data Analysis

Descriptive statistics were used in summarizing the data while inferential statistics were used to test for significant associations and predictors. We performed a one sample t-test to obtain the mean value in each of the three PTSD symptom clusters of intrusion, avoidance, and hypervigilance and a Pearson chi-square correlation to test the relationship between demographic characteristics (gender, age, marital status, educational level) and the prevalence of three PTSD symptom clusters. Chi-square correlation was also used in analyzing the prevalence of PTSD across symptom clusters.

Ethical consideration

Ethical approval was granted by the Ethical Committee of the Research and Development department, Plateau State University Bokokos, Plateau State, north central Nigeria, while permission to utilize the IDPs and the camp facilities for this study was granted by the camp commandant. All

the study participants consented to participate in the study by giving their verbal and written informed consent. Adults aged 18 years and above and residents of the camp were eligible for inclusion in the study. Eligible participants who were either physically incapacitated or those with debilitating medical or surgical conditions which could impair with their ability to participate in the study were excluded from the study. Names were not included in any of the study findings.

Results

Hypothesis 1:

The Chi-square statistic was used in testing hypothesis one and the results revealed that there was a significant high prevalence of PTSD among IDPs in Jos, with 212 (85.5%) of the study participants diagnosed with PTSD symptoms; while 14.5% of the participants had no PTSD ($\chi^2 = 124.903, p = 0.0005$). The hypothesis was supported. This revealed a high prevalence of PTSD among IDPs in Jos. Table 2 shows the details of the result.

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Table 2: General PTSD prevalence

	Frequency	Percentage %	χ^2	p-value
Normal	36	14.5	124.903	0.0005
PTSD	212	85.5		
Total	248	100.0		

Hypothesis 2:

The one sample t-test was used in testing hypothesis two and results indicated that there was a significant manifestation of PTSD symptom clusters (intrusion, aversion, and hypervigilance) among IDPs in Jos; with

significant intrusion cluster [$t(247) = 64.518$, $p = 0.0005$]; avoidance cluster [$t(247) = 45.940$, $p = 0.0005$]; and hypervigilance cluster [$t(247) = 44.773$, $p = 0.0005$]. Table 3 shows the details of the results.

Table 3: One Sample T-Test showing of presence of PTSD among IDPS

PTSD Cluster	N	Mean	Std. Deviation	t	Df	p-value
Intrusion	248	1.76	.43	64.518	247	0.0005
Avoidance	248	1.23	.42	45.940	247	0.0005
Hypervigilance	248	1.28	.45	44.773	247	0.0005

Hypothesis 3:

We tested hypothesis 3 to examine the relationship between PTSD symptom clusters and demographic characteristics of the study participants. The results in table 4 below reveal a significant relationship between gender and intrusion ($\chi^2 = 21.787$, $p = 0.0005$), with females exhibiting more intrusion symptoms; avoidance ($\chi^2 = 14.754$, p

$= 0.0005$), with females exhibiting more avoidance symptoms; and hypervigilance ($\chi^2 = 8.229$, $p = 0.0004$), with females also exhibiting more hypervigilance symptom. Related to age, the result showed a significant relationship between age and intrusion ($\chi^2 = 27.872$, $p = 0.0005$), and aversion ($\chi^2 = 16.158$, $p = 0.006$); there was no significant relationship between age and hypervigilance symptoms ($\chi^2 = 10.743$, $p = 0.057$). There was

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a significant relationship between marital status and intrusion ($\chi^2 = 131.617, p = 0.0005$); avoidance ($\chi^2 = 12.316, p = 0.002$); and ($\chi^2 = 29.771, p = 0.0005$). In terms of educational level, there was a significant relationship

between level of education and intrusion ($\chi^2 = 23.617, p = 0.0005$); avoidance ($\chi^2 = 12.825, p = 0.005$); and hypervigilance ($\chi^2 = 14.914, p = 0.002$)

Table 4: PTSD Symptom clusters across demographic characteristics of study participants

	PTSD Clusters (General)								
	Intrusion			Avoidance			Hypervigilance		
	f (%)	χ^2	p-value	f (%)	χ^2	p-value	f (%)	χ^2	p-value
Gender									
Male	62 (25.0)	21.787	0.0005	14 (5.6)	14.754	0.0005	23 (9.3)	8.229	0.004
Female	126 (50.8)			43 (17.4)			47 (19.0)		
Total	188 (75.8)			57 (23.0)			70 (28.2)		
Age									
18-27 years old	35 (14.1)	27.872	0.0005	10 (4.0)	16.158	0.006	16 (6.5)	10.743	0.057
28-37 years old	45 (18.1)			19 (7.7)			16 (6.5)		
38-47 years old	46 (18.5)			9 (3.6)			14 (5.6)		
48-57 years old	29 (11.7)			11 (4.4)			12 (4.8)		
58-67 years old	19 (7.7)			4 (1.6)			9 (3.6)		
≥ 68 years old	14 (5.6)			4 (1.6)			3 (1.2)		
Total	188 (75.8)			57 (23.0)			70 (28.2)		
Marital status									
Single	32 (12.9)	131.617	0.0005	10 (4.0)	12.316	0.002	16 (6.5)	29.771	0.0005
Married	109 (44.0)			31 (12.5)			33 (13.3)		
Widowed	46 (18.5)			16 (6.5)			20 (8.1)		
Divorced	1 (0.4)			0 (0.0)			1 (0.4)		
Total	188 (75.8)			57 (23.0)			70 (28.2)		
Level of Education									
Adult Education	34 (13.7)	23.617	0.0005	7 (2.8)	12.825	0.005	10 (4.0)	14.914	0.002
Primary school	50 (20.2)			21 (8.5)			13 (5.2)		
Secondary School	73 (29.4)			21 (8.5)			31 (12.5)		
Tertiary	31 (12.5)			8 (3.2)			16 (6.5)		
Total	188 (75.8)			57 (23.0)			70 (28.2)		

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Discussion

We assessed the prevalence of PTSD and its manifestation across symptom clusters among IDPs displaced by herdsmen in BarkinLadi LGA and some parts of Jos south LGA, north central Nigeria. We had hypothesized that there will be a significant high prevalence of PTSD among IDPs in Jos. The result revealed that of the 248 study participants, 212 representing (85.05%) of the study population met the symptom criteria for PTSD. The result supports our hypothesis. The high PTSD prevalence could be attributed to the fact that IDPs experienced and witnessed extreme violence from Fulani herdsmen who perpetrated atrocities on Berom communities ranging from killings, abductions, raping of women and girls, destruction of food crops and properties. This is consistent with previous findings among trauma survivors in the study of Aluh et al. (2019) who documented a PTSD prevalence rate of 78% among IDPs in Maiduguri, north-eastern Nigeria. Our result also aligns with that of Madoro et al. (2020) who in South Ethiopia reported an estimated PTSD prevalence of 58.4% among IDPs as a result

of high internal displacement in 2018. The disparity in PTSD prevalence of 85.05% in our study compared with the 46.1% reported by Tagurum, Chirdan, Obindo, Bello, Afolalaranmi, Hassan, & Yilgwan, (2015) study in Jos, Nigeria could be attributed to methodological and contextual factors. For example, while we assessed PTSD among trauma survivors of herdsmen farmers' conflict, respondents in Tagurum et al.'s study were victims of ethno-religious violence in Jos. Certainly, it is reasoned that participants in our study who were exposed to extreme traumatic events are likely to manifest more PTSD symptoms.

We found that there was a significant positive relationship between demographic characteristics and PTSD cluster symptoms among IDPs in Jos in line with our prediction. The result obtained provides evidence of extremely high exposure of traumatic events suffered by Berom farmers who were displaced from their communities into camps. We found that there was a significant difference in the manifestation of PTSD symptoms across the three main clusters of intrusion, avoidance, and hypervigilance by

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IDPs as hypothesized. The results revealed that married participants endorsed more of the PTSD intrusion symptoms than others. This result suggests that married participants in particular, the women may have been more susceptible considering their enormous responsibilities as mothers who take care of the entire household chores in situations where their husbands were either kidnapped or even killed during the conflicts. Moreover, because women have higher risk of developing PTSD due to their lower threshold from exposure to psycho trauma compared to men (Roberts et al., 2008). This corroborates with the findings of Norris and Aroin (2008) who assessed PTSD among Arab immigrant women and found that re-experiencing symptoms were reported more frequently than avoidance and arousal symptoms. Similarly, Hamid and Musa (2010) in their study found that married participants were more distressed, anxious, and showed more social dysfunctions while the single ones reported more of avoidance symptoms. Our result therefore suggests that married couples in particular women who lost their husbands during the attacks

manifested more of the PTSD intrusion symptoms because most of them they were sexually abused hence could be emotionally upset when reminded of the trauma. Additionally, they could have suffered from nightmares and more likely to relive the traumatic event.

Furthermore, our result revealed that marital status is significantly associated with the avoidance of PTSD symptom cluster in conformity with the findings of Walter et al. (2020) who documented the association between symptom clusters and new-onset depression among military spouses. Walter and fellow researchers found that of the 563 service members who had evidence of PTSD, 14.4% met the criteria for new-onset depression. Service member ratings of symptoms in the avoidance cluster predicted an increased risk of new-onset depression among military spouses, whereas re-experiencing symptoms were marginally protective. Although these findings align with our results, the disparity in our findings could be explained in terms of our study participants, settings, and the methodological approach. For instance, it is possible that

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married participants, in particular women who were sexually or physically assaulted by the herdsmen while on their farms could be at greater risk to manifest avoidance PTSD symptoms. This is obvious because the traumatic experience will continue to linger on such victims hence; they are liable to avoid thinking, talking, or even desire to reintegrate into their communities because of the trauma they experienced. Also, victims are likely to avoid activities, places, and people who may remind them of the trauma. The result further revealed that educational level was significant with the PTSD hypervigilance symptom cluster. This suggests that secondary school participants manifested more of the hypervigilance symptoms of PTSD more than others. The explanation for this outcome is that secondary school students who constituted the majority of the study participants have the capacity to be curious and alert of events in their communities. Besides, most of the schools in the communities were completely razed down by the herders, while some of their colleagues and teachers were murdered. Consequently, the students are likely to

manifest hypervigilance symptoms such as having sleeping problems, easily irritated, get startled, at the slightest provocation and always on the outlook checking on their surroundings for further attacks. Our result supports that of Tagurum et al. (2015) who documented that (68.1%) of their study respondents exhibited PTSD symptoms and were constantly watchfulness and easily startled.

Furthermore, our result revealed that females more than the males significantly manifested more intrusion, avoidance, and hypervigilance PTSD symptoms. This finding aligns with that of Roberts et al. (2008) who found that of the 1210 study participants, 67% of women met symptom criteria for PTSD in their study with IDPs in Gulu and Amuru districts in northern Uganda. Our finding hence suggests that women were subjected to rape and sexual abuse compared with their male counterparts.

Limitations of the Study

This study was subjected to the small size and the use of only Berom ethnic group of Plateau State, north central Nigeria which may not reflect the general population in Jos which we

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could make inferences. Secondly, we only focused on PTSD while other mental disorders including depression, anxiety disorders, and alcohol use disorders were not considered.

Conclusion

The study established a high prevalence of PTSD (85.5%) among IDPs living in Geosciences camp in Jos, Nigeria subsequent to the persistent clashes between Fulani herdsmen and Berom indigenous farmers. The conflicts had led to destruction of properties, killings, and exposure to traumatic events thus resulting to a high prevalence of PTSD which is consistent with several studies. The IDPs also reported experiencing traumatic symptoms across the three PTSD clusters of intrusion, avoidance/numbing, and hypervigilance symptoms. The main finding from this study is that marital status was significant with intrusion symptom cluster of PTSD. Similarly, marital status was significant with

avoidance symptom cluster, while educational level was significant with hypervigilance symptoms. Displacement of IDPs by herdsmen was a major factor which gravely affected their mental health. The results of this study imply that the IDPs require psychological support services from aid agencies to get some relief so as to prevent further complications associated with PTSD. The findings also suggest that assessment of PTSD symptoms across the three clusters is vital to identify and apply efficient treatment.

Recommendations

We advocate for relief efforts and provision of mental health services for the vulnerable IDPs. We also recommend that similar studies in future should be conducted on other mental disorders with larger samples of survivors of banditry, cattle rustling, and kidnapping activities being witnessed in some parts of Nigeria.

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References

- American Psychiatric Association [APA, TRV], 2000. (2000). Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition, Text Revision (DSM-IV-TR). In *Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition, Text Revision (DSM-IV-TR)* (Fourth Edi). American Psychiatric Association.
<https://doi.org/10.1176/appi.books.9780890423349>
- American Psychiatric Association. (2013). DSM-V. In *Diagnostic and statistical manual of mental disorders* (5th edition).
- Alobo, E., & Obaji, S. (2016). Internal displacement in Nigeria and the case for human rights protection of displaced persons. *Journal of Law, Policy, and Globalization*, 51(0), 26-33.<http://www.iiste.org/journals/index.php/JLPG/article/view/32031>
- Aluh, D. O., Okoro, R. M., & Zimboh, A. (2019). The prevalence of depression and post-traumatic stress disorder among internally displaced persons in Maiduguri, Nigeria. *Journal of Public Mental Health*, 19 (2), 159-168.
<https://doi.org/10.1108/JPMH-07-2019-0071>
- Bremner, J. D., Eric, M., Vythilingam, M., Afzal, N., Schmahl, C., Elzinga, B., & Charney, D. S. (2004). Neural correlates of the classic color and emotional stroop in women with abuse-related posttraumatic stress disorder. *Biological Psychiatry*, 55(6), 612–620.
<https://doi.org/10.1016/j.biopsych.2003.10.001>
- Breslau, N. (2001). The epidemiology of posttraumatic stress disorder: What is the extent of the problem? *The Journal of Clinical Psychiatry*, 62(Suppl 17), 16–22.
- Creamer, M.C., Burgess, P.M., & Alexander, C., (2001). Post-traumatic stress disorder: Findings from the Australian National Survey of Mental Health and Well-being. *Psychological Medicine*, 31, (7), 1237-1247.
- Connolly, P. (2007). Quantitative data analysis in education: A critical

Gyang T. Rwang, Grace M. Kibanja & Kajumba M. Mayanja

- introduction using SPS...: EBSCOhost.
In *London: Routledge*. (illustrate).
Routledge.
<https://doi.org/10.1159/000233155>
- Ehlers, A., & Clark, D. M. (2000). A cognitive model of posttraumatic stress disorder. *Behaviour Research and Therapy*, 38(4), 319–345.
[https://doi.org/10.1016/S0005-7967\(99\)00123-0](https://doi.org/10.1016/S0005-7967(99)00123-0)
- Erbes, C. R., Kaler, M. E., Schult, T., Polusny, M. A., & Arbisi, P. A. (2011). Mental health diagnosis and occupational functioning in National Guard/Reserve veterans returning from Iraq. *Journal of Rehabilitation Research and Development*, 48(10), 1159–1170.
<https://doi.org/10.1682/JRRD.2010.11.0212>
- Hamid, A. R. M., & Musa, S. A. (2010). Mental health problems among internally displaced persons in Dafur. *International Journal of Psychology*, 45(4), 278-285.
- Hansen, M., Andersen, T. E., Armour, C., Elklit, A., Palic, S., & Mackrill, T. (2010). PTSD-8: A Short PTSD inventory. *Clinical Practice & Epidemiology in Mental Health*, 6, 101–108.
- Hobfoll, S.E., Macini, A.D., J Hall, B., Canetti, D., & Bonanno, G.A. (2008). The limit of resilience: Distress following chronic Political violence among Palestinians. *Social Science and Medicine*, 72, (8), 1400-1408.
- Horner, M. D., & Hamner, M. B. (2002). Neurocognitive functioning in posttraumatic stress disorder. *Neuropsychology Review*, 12(1), 15–30.
<https://doi.org/10.1023/A:1015439106231>
- Hull, A. M., Alexander, D. A., & Klein, S. (2002). Survivors of the piper alpha oil platform disaster: long-term follow-up study. *British Journal of Psychiatry*, 181(5), 433–439.
- Jordan, B.K., Marmar, C., Fairbank, J., Schlenger, W.E., Kulka, R.A., Hugh, R., & Weiss, D.S.(1993). Problems in families of male Vietnam veterans with Post-traumatic stress disorder. *Journal of Consulting and Clinical Psychology*, 60 (6), 916-926. doi: 10.1037//0022-

PREVALENCE OF POST TRAUMATIC STRESS DISORDER AND SYMPTOMS MANIFESTATION ACROSS
DEMOGRAPHIC VARIABLES AMONG INTERNALLY DISPLACED PERSONS IN JOS, NIGERIA

006x.60.6.916

- Kessler, R.C., Sonnega, A., Bromet, E., Hughes, M., & Nelson, C. B. (1995). Posttraumatic Stress Disorder in the National Comorbidity Survey. *Archives of General Psychiatry*, 52, 1048–1060. [https://doi.org/10.1002/1099-1298\(200011/12\)10](https://doi.org/10.1002/1099-1298(200011/12)10)
- Leskin, L. P., & White, P. M. (2007). Attentional networks reveal executive function deficits in posttraumatic stress disorder. *Neuropsychology*, 21(3), 275–284. <https://doi.org/10.1037/0894-4105.21.3.275>
- Madoro, D., Kerebih, H., Habtamu, Y., G/tsadik, M., Makona, H., Molla, A., Wondie, T., & Yohannes, K. (2020). Posttraumatic stress disorder and associated factors among internally displaced people in South Ethiopia: A cross-sectional study, *Neuropsychiatric Disease and Treatment*, 16, 2317-2326. <https://doi.org/10.2147/NDT.S262307>
- Norris, A. E., & Arorian, K. J. (2008). Avoidance symptoms and assessment of

post-traumatic stress disorder in Arab immigrant women. *Journal of Traumatic Stress*, 21 (5), 471-478.

- Okon, E. O. (2018). Internally displaced persons in Nigeria: Review of empirical studies. *American International Journal of Social Science Research*, 2(1), 28–38.
- Owoaje, E. T., Uchendu, O. C., Ajayi, T. O., & Cadmus, E. O. (2016). A review of the health problems of the internally displaced persons in Africa. *Nigerian Postgraduate Medical Journal*, 23(4), 161–171. <https://doi.org/10.4103/1117-1936.196242>
- Onyut, L. P., Neuner, F., Ertl, V., Schauer, E., Odenwald, M., & Elbert, T. (2009). Trauma, poverty and mental health among Somali and Rwandese refugees living in an African refugee settlement: An epidemiological study. *Conflict and Health*, 3 (6), <https://doi.org/10.1186/1752-1505-3-6>
- Roberts, B., Ocaka, K. F., Browne, J., Oyok, T., & Sondorp, E. (2008). Factors associated with post-traumatic stress disorder and depression among internally displaced persons in northern

Gyang T. Rwang, Grace M. Kibanja & Kajumba M. Mayanja

- Uganda. *BMC Psychiatry*, 8 (38), 1-9.
<https://doi.org/10.1186/1471-244x-8-38>
- Samuelson, K. W., Neylan, T. C., Metzler, T. J., Lenoci, M., Rothlind, J., Henn-Haase, C., Choucroun, G., Weiner, M. W., & Marmar, C. R. (2006). Neuropsychological functioning in post-traumatic stress disorder and alcohol abuse. *Neuropsychology*, 20(6), 716–726. <https://doi.org/10.1037/0894-4105.20.6.716>
- Sheikh, T. L., Mohammed, A., Esegbe, E., Adekeye, T., Nuhu, F. T., Lasisi, M., Muhammad, A., Sulaiman, Z. T., Abdullateef, A. A., Hayyatudeen, N., & Akande, Y. (2016). Descriptive characterization of Psycho-trauma , psychological distress , and post-traumatic stress disorder among children and adolescent internally displaced persons in Kaduna , Nigeria. *Frontiers in Psychiatry*, 7(October), 1–6.
<https://doi.org/10.3389/fpsy.2016.00179>
- Stein, M. B., Kennedy, C. M., & Twamley, E. W. (2002). Neuropsychological function in female victims of intimate partner violence with and without posttraumatic stress disorder. *Biological Psychiatry*, 52(11), 1079–1088. [sci-hub.tw/10.1016/S0006-3223\(02\)01414-2](https://doi.org/10.1016/S0006-3223(02)01414-2)
- Tagurum, Y. O., Chirdan, O. O., Obindo, T., Bello, D. A., Afolaranmi, T.O., Hassan, Z. I., & Yilgwan, C. (2015). Prevalence of violence and symptoms of posttraumatic stress disorder among victims of ethno-religious conflict in Jos, Nigeria. *Journal of Psychiatry*, 18(178), 14-138.
<https://doi.org/10.4172/2378-5756-1000178>
- Taru, M. Y., Bamidele, L. I., Makput, D. M., Audu, M. D., Philip, T. F., John, D. F., Yusha' u, A. A., & Annah, G. B. (2018). Posttraumatic stress disorder among internally displaced victims of Boko haram terrorism in north-eastern Nigeria. *Jos Journal of Medicine*, 12 (1), 1-15.
- Twamley, E. W., Allard, C. B., Thorp, S. R., Norman, S. B., Cissell, S. H., Berardi,



PREVALENCE OF POST TRAUMATIC STRESS DISORDER AND SYMPTOMS MANIFESTATION ACROSS
DEMOGRAPHIC VARIABLES AMONG INTERNALLY DISPLACED PERSONS IN JOS, NIGERIA

- K. H., Grimes, E. M., & Stein, M. B. (2009). Cognitive impairment and functioning in PTSD related to intimate partner violence. *Journal of the International Neuropsychological Society*, *15*(6), 879–887. <https://doi.org/10.1017/S135561770999049X>
- Vasterling, J. J., Brailey, K., Constans, J. I., & Sutker, P. B. (1998). Attention and memory dysfunction in posttraumatic stress disorder. *Neuropsychology*, *12*(1), 125–133. [sci-hub.tw/10.1037/0894-4105.12.1.125](https://doi.org/10.1037/0894-4105.12.1.125)
- Vasterling, J. J., Duke, L. M., Brailey, K., Constans, J. I., Allain, A. N., & Sutker, P. B. (2002). Attention, learning, and memory performances and intellectual resources in Vietnam veterans: PTSD and no disorder comparisons. *Neuropsychology*, *16*(1), 5–14. <https://doi.org/10.1037/0894-4105.16.1.5>
- Walter, K. H., LeardMann, C. A., Carballo, C. E., McMaster, H. S., Donoho, C. J., & Stander, V. A. (2020). Posttraumatic stress disorder symptom clusters in service members predict new-onset depression among military spouses. *Journal of Traumatic Stress*, <https://doi.org/10.1002/jts.22575>