POSTTRAUMATIC STRESS DISORDER AMONG INTERNALLY DISPLACED VICTIMS OF BOKO HARAM TERRORISM IN NORTH-EASTERN NIGERIA

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ABSTRACT

Background: *A large number of youth are often directly involved in armed-conflict, and therefore are at greater risk of developing a wide range of mental disorders including posttraumatic stress disorder (PTSD). However little is known about the prevalence of PTSD among youth who constitute a large work force.*

Objective: *This study was carried out to assess the prevalence of posttraumatic stress disorder among Internally Displaced youth exposed to Boko Haram terrorism in North-Eastern Nigeria. It also assessed the socio-demographic factors associated with PTSD in this population.*

Method: *A cross-sectional study that employed a consecutive sampling technique to select eligible subjects undergoing a Citizenship and leadership training at Citizenship and Leadership training institute Jos, Plateau State. The posttraumatic stress disorder module of Mini International Neuropsychiatric Interview was used to assess for current symptoms of PTSD.*

Results: *The results show that more than two-third of the respondents were unemployed youth with secondary level of education and had low or no stable income. More than 63% of the respondents were diagnosed with PTSD. Educational status (p=0.002), marital status (p=0.001) and income before displacement (p=0.010) were the significant factors associated with PTSD.*

Conclusions: *The results point to the importance of screening and treatment for traumatic armed conflict victims, with particular attention to youth who had low education and low income levels as well as being never married or widowed.*

Key Words: *PTSD, sociodemographic factors, Bokoharam terrorism, North Eastern Nigeria.*

POSTTRAUMATIC STRESS DISORDER AMONG INTERNALLY DISPLACED YOUTH IN NORTH-EASTERN NIGERIA

Nigeria has had a long and unfortunate history of communal and ethno religious conflicts since its return to civilian rule in 1999, with the North-Central and North Eastern regions being the areas worst hit.[1, 2] For example, since the upsurge of the Boko Haram terrorism in 2009, the North-Eastern region which Adamawa, Borno and Yobe States belong, has continued to witness incessant hostility and violent confrontations by the terrorists, causing a large scale death and displacement of people.[2]

The term 'Internally Displaced Persons' (IDPs) has been used to describe 'persons or groups of people who have been forced or obliged to flee or leave their homes or places of habitual residence as a result of, or in order to avoid the effects of armed conflicts, situations of generalised violence, violations of human rights, natural or human-made disasters, and who have not crossed an internationally recognised state border.[3]

As at the end of 2016, the total number of IDPs in North East and North Central Nigeria is estimated at over 2 million people,[4] with approximately 1.7 persons who have been displaced as a result of the Boko Haram terrorism in the North Eastern States,[5] making Nigeria host to the sixth largest IDPs population in the world.[6]

The IDPs are often described as poly-traumatized population because they experience both the direct impact which is due to violence and injury and the indirect impact during mass movement due to physical exhaustion, hunger and snake and other animals' attack. Their conditions are further compounded by a variety of post conflict hardships such as adaptation to new environment, overcrowding, physical and sexual abuses as well as infectious diseases with increased mortality among other vulnerabilities, which are also extremely traumatic.[7]

Posttraumatic stress disorder (PTSD) is frequently reported among individuals who experience armed conflict related stressful events. This disorder is characterized by symptoms of re-experiencing, avoidance and increased arousal following exposure to a stressful event that threatens life or physical integrity to self or others.[8] If left untreated, the condition may become chronic with a huge health care costs and economic losses.[9]

The lifetime prevalence of PTSD in general peaceful population ranged between 0% in Swizerland[10] and 7.8% in United States of America,[11] while a disproportionately large number of people who have lived in war zones have been found to suffer from symptoms of PTSD,[12] with incredibly high rates of 42-80% noted among internally displaced persons in Nigeria,[13-14] Uganda,[15] South Sudan[16] and Kenya.[17] However, previous studies in Nigeria did not particularly evaluate the prevalence of PTSD among the youth who are often engaged in the conflict and therefore more likely to experience the greatest exposure to the primary traumatic events.

In Nigeria, citizens between ages 15 and 35 are often regarded as the youth, they also form more than 50 percent of the total population and constitute a large work force of the nation.[18] Thus, the onset of PTSD in youth has a particularly damaging impact on the environment and the Country's economy.

It was against this background that this study aimed at evaluating the prevalence and sociodemographic factors associated with PTSD among internally displaced youth affected by the Boko Haram terrorism in North-Eastern Nigeria.

METHODS

The study was conducted in November and December 2016. It was a cross-sectional survey that was conducted among internally displaced youth undergoing six weeks United Nations Development Programme (UNDP) sponsored training at the Citizenship & Leadership Training Institute in Jos, Plateau State, Nigeria. This centre admits citizens mostly from within the West African Sub-region, with a core mandate of *providing training for the development of citizenship and leadership for public benefit.*[19] The study population comprised all the 375 internally displaced youth, aged 15 to 35 years undergoing the training. Permission was granted by the UNDP officials and Participants were first of all given a 15 minute general health talk during which, it was made clear to them that those willing to access medical services can visit the medical outreach team stationed at the institute's clinic for medical check up and treatment.

Consecutive sampling method was employed to recruit participants who visited the centre's clinic. The aim of the study was first of all explained to them, after which they were assured of their confidentiality before verbal consent was obtained from those willing to be interviewed. It was made clear to all of them that the interviews were entirely

voluntary and that they can withdraw at any stage if they so wish and still benefit full training and medical care. Data were collected by Psychiatrists and Psychologists who are conversant with the use of the survey instruments. Those identified with any psychological disorders were commenced on treatment while the training lasted and thereafter referred to mental health facilities in their respective States. Their contact numbers were collected for a follow-up telephone interview.

A total of 302 people gave consent to participate in the study, but 10 withdrew after commencement of interview. The remaining 73(19.5%) did not visit the clinic and therefore they did not participate in the study.

Demographic variables were assessed using a Sociodemographic Questionnaire designed by the researchers. This sought information on socio-demographic data (age, gender, level of education, marital status, occupation, individual monthly income, religion and ethnicity.

The PTSD module of the Mini International Neuropsychiatric Interview (M.I.N.I)[20] was used to assess for PTSD symptoms. This is a brief structured interview for major axis-1 psychiatric disorders in DSM-IV and ICD-10. It specifically asks question about the past month symptoms of PTSD. The M.I.N.I-PTSD module has been used in Nigeria[21]

The statistical package for social sciences version 20 (SPSS-20) Software package was used to analyze the data. The results were presented using simple descriptive analysis. Chi-square test was used to investigate the difference between categorical variables and their associations. Values of $P<0.05$ were considered statistically significant.

RESULTS

Socio-demographic characteristics of respondents and prevalence of PTSD

A total of 302 participants gave consent to participate in the study, but 292 interviews comprising 202(69.2%) males and 90(30.8%) females, with mean age of 27.3±6.23 years and predominantly muslims (99.6%) of the Kanuri, Fulani and Hausa ethnic groups were used in the analyses. Majority of the participants belonged to occupational groups V; 70(24%) and VI; 172 (58.9%), with estimated monthly income below N20, 000.00; 198(67.8%) before displacement

More than half of the participants were never married 170(58.2%). The rest; 94(32.2%), 10(3.45) and 18(6.2%) were married, previously married and widowed respectively.

All the respondents were screened positive for trauma exposure related to the Boko Haram terrorist act in North-Eastern Nigeria, out of which 63.7% were diagnosed with PTSD (Table 1:).

OCCUPATIONAL CLASSIFICATION OF THE PARTICIPANTS

The occupational classification of participants was done using the the protocol designed by Boroffka and Olatawura.[22] This criterion classifies occupation into six (6) groups (I-VI) as follows:

Group I consists of professionals with university degrees (doctors, teachers, lawyers, scientists and high government officers).

Group II consists of professionals without university degrees (administrators, high clerical and supervisory personnel's, large scale farmers, entrepreneurs and armed forces officers).

Group III consists of clerks, motor vehicle drivers, mechanics, tailors, butchers, soldiers, police and small-scale entrepreneurs.

Group IV consists of barbers, goldsmiths, palm wine tapers and small- scale farmers.

Group V includes laborers and petty traders.

Group VI consists of full time house wives, unemployed educated youths and apprentices.

This system of classification has been previously used among Nigerians subject.

ASSOCIATION BETWEEN PTSD AND SOCIODEMOGRAPHIC CHARACTERISTICS OF RESPONDENTS

The sociodemographic factors associated with PTSD among the respondents include, level of education, income level and marital status; with having low level of education ($p<0.002$), low income ($p<0.010$) and being a widow ($p<0.001$) being more likely to develop PTSD (Table 2:)

Table1: Socio-demographic characteristics of respondents

Variables	Response	Freq.	%
Age	(mean± SD)	27.3±6.2	
Gender	Male	202	69.2
	Female	90	30.8
Level of education	No formal educ.	20	6.8
	Primary school	34	11.6
	Secondary	150	51.4
	Tertiary	88	30.1
Occupational groups I-VI	I&II (Teachers, high clericals , Scientist large scale farmers etc	4	1.4
	III (Small scale farmers, tailors drivers, butchers, herdsmen etc)	10	3.42
	IV (barbers, fuel stations attendants, goldsmiths etc)	36	12.3
	V (laborers and petty traders)	70	24.0
	VI (full time house wives, students, unemployed, apprentices etc)	172	58.9
Marital status	Never married	170	58.2
	Married	94	32.2
	Previously Married	10	3.4
	widow	18	6.2
Monthly Income	<N20,000.00	198	67.8
	N20,000-50,000	84	28.8
	>50,000	10	3.4
Religion	Islam	244	83.6
	Christianity	48	16.4
Ethnicity	Kanuri	101	34.6
	Fulani	71	24.3
	Hausa	65	22.3
	Others	55	18.8
PTSD	Yes	186	63.7
	No	106	36.3

Table2: Association between PTSD and Sociodemographic Characteristics of Respondents

Variables	PTSD		Statistics		
	Yes(186)	**No(106)**	X^2	**df**	**p**
Gender					
Male	132(65.3%)	70(34.7%)	0.770	1	0.380
Female	54(60%)	36(40%)			
education					
education	16(8.6%)	4(3.8%)	14.70	3	0.002
primary	30(16.1%)	4(3.8%)			
secondary	92(49.5%)	58(54.7%)			
tertiary	48(25.8%)	40(37.7%)			
Occupation group(I-VI)					
I & 11 (Teachers, lawyers, large scale farmers etc)	0(0.0%)	4(3.6%)	9.34	4	0.960
III (Small scale farmers, butchers, herdsmen etc)	8(4.3%)	2(1.95)			
IV (barbers, goldsmiths, small-scale intreprenuers etc)	24(12.9%)	12(11.3%)			
V (laborers and petty traders)	48(25.8%)	22(20.8%)			
VI (full time house wives, students, apprentices etc)	106(57%)	66(62.3%)			
Marital status					
Never married	114(61.3%)	56(52.8%)	24.01	3	0.001
Married	56(30.1%)	38(35.8%)			
Previously married	0(0%)	10(9.4%)			
Widow	16(8.6%)	2(1.9%)			
Religion					
Islam	158(64.8%)	86(35.2%)	0.715	1	0.398
Christianity	28(58.3%)	20(41.%)			
Ethnicity					
Kanuri	65(37.0%)	36(31.0%)	2.51	3	0.473
Fulani	44(25.0%)	27(23.3%)			
Hausa	34(19.3%	31(26.7%)			
Others	33(18.7%)	22(19.0%)			

DISCUSSION

We analyzed 292 of the 302 respondents (96.7% response rate), majority were males. This is in contrast to the previous samples drawn from IDPs in Nigeria, where females rather than males were found to be more in numbers.[13-14] Our finding is expected, giving that the training itself was designed to change the mindsets and behaviours of youth regarding violence and insurgency which are often perpetuated by a large number of male youth.[23] Moreover, the Demographic Health survey in Nigeria reveals that, males are traditionally given more preference in terms of education, employment and leadership positions,[23] which could also be another plausible explanation for the dominance of male over female youth in this sample.

We found a 63.7% prevalence of PTSD, which is similar to the rates reported among internally displaced victims of armed-conflict in Nigeria and other African countries. In Nigeria for instance, Agbir et al[13] and Sheikh et al[14]found a 42% and 57.8% prevalence of PTSD respectively, among total samples of IDPs exposed to armed conflict in North-Central and North-Western Nigeria. These high prevalence were also reflected among internally displaced victims of war in Northern Uganda (54%) [15], Kenya (80.2%)[17] and South Sudan (48%)[16] respectively. Thus, our findings, as well as previous findings in Nigeria and other studies suggest that exposure to traumatic conflict are associated with increased prevalence of PTSD. However, the difficulty in comparing studies of different populations exposed to armed-conflict has to be emphasized because of variability in factors such as level of trauma exposure; time elapsed between exposure and diagnosis, other methodological differences and cultural factors. For instance, we presumed that the higher prevalence of PTSD in our study and that of Kenya vis-a-vis previous surveys in Nigeria, Uganda and South-Sudan may be linked to the variations in nature of the population studied.

This study revealed that low levels of education and income, which are components of low socio-economic status, were significantly associated with PTSD. However, these associations has to be interpreted with caution, giving that the sample was drawn from young adults, majority were secondary school students who had little or no source of stable income. Nevertheless, low socio-economy itself has been found to play a major role in the development and persistence of PTSD symptoms.[25,26] Perhaps, the victims lacked the recourses to cushion the various effects of trauma and therefore continued to face daily stressors like over-crowding, diseases out-break, famine and rape among other vulnerabilities.

A **high** proportion of the widowed and those never married reported PTSD symptoms. Creamer and colleagues[27] and Kessler and colleagues,[28] in their respective studies found that the unmarried and previously married men and women were at greater risk of developing PTSD than those currently married. These factors may be associated with reduced level of social support, with consequent weakening of the person's defence against trauma-induced stressors, thereby increasing individual's risk of developing psychological disorders including PTSD.[29]

Surprisingly, gender was not found to exert any significant influence on PTSD, which is in contrast to previous findings that reported a significantly higher prevalence of PTSD among females than males.[13,15,17,30] It has been documented that, in settings that are chronically affected by war or violence, the gender influence on the risk for PTSD becomes less important.[31] This assertion was supported by Wolfe, et al who found that PTSD rates following Gulf War combat experience were even higher in men than women.[31]

Similarly, this study did not find a significant influence of ethnicity and religion on the development of PTSD. Perhaps the violence generated trauma related stress symptoms to everyone that was exposed, irrespective of religious or ethnic affiliations. In addition, the number of Christian youth compared to their Muslim counterparts in this sample was too few to make any valid comparison.

CONCLUSION

This study confirmed that PTSD is highly prevalent among youth displaced by the activities of Boko Haram terrorists in North Eastern Nigeria. It also highlights the socio-demographic factors such as education, income, and marital status that were significantly associated with PTSD.

RECOMMENDATION

It is recommended that an effective model for the prediction of the development of PTSD as well as immediate and long-term mental health support for trauma victims especially the youth need to be

developed. In addition, mental health awareness campaigns for trauma victims to seek for mental health care and that will also target some of the factors associated with PTSD, such as low level of education, low income, being never married and widowed, needs to be incorporated into the emergency response for trauma victims.

STRENGTH AND LIMITATION OF THE STUDY

The strength of this study lies in the fact that it is one of the few surveys to examine the socio-demographic factors associated with PTSD among internally displaced youth in North-Eastern Nigeria.
The study however, had limitations that also need to be acknowledged. Firstly, this study cannot be generalized across population in Nigeria; rather, it is limited to internally displaced youth exposed to Boko Haram terrorism in North-Eastern Nigeria. Secondly, we narrowed our findings to PTSD, while other mental disorders such as depression, sleep disorders and other anxiety disorders may be part of the responses to trauma in some respondents.
Furthermore, this study did not include information on previous history of PTSD or other mental illnesses before the terrorists attack. It is possible that PTSD diagnosed with some respondents may have occurred prior to this violence.

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REFERENCES

1. Haldun A, Opeyemi AO. Ethnic and religious crises in Nigeria: A specific analysis upon identities (1999-2013). African Journal on Conflict Resolution 2016;16:1.
2. Abdul AS, Kabiru RD. The Psychological Trauma of Boko Haram Conflict On Secondary School Students in Borno State. International Journal for Social Studies 2017; 03. Available at https://edupediapublications.org/journals
3. United Nations Commission on Human Rights. Report of the Representative of the Secretary−General on Internally Displaced Persons: Guiding Principles on Internal Displacement, UN 1998 doc.E/CN.4/1998/53/
4. International Organisation for Migration, *Displacement Tracking Matrix Round XI Report August* 2016, p. 1.
5. International Organisation for Migration, *Displacement Tracking Matrix Round XII Report, October* 2016, p. 2
6. Internal Displacement Monitoring Centre (IDMC), *GRID 2016 - Global Report on Internal Displacement* 2016, p. 27.
7. The Sphere Handbook. Minimum standards in health action. The Sphere Project: Humanitarian Charter and Minimum Standards in Disaster Response; 2011:287−354. Available from: http://www.spherehandbook.org/.
8. American Psychiatric Association. Diagnostic and Statistical Manual of Mental Disorders (DSM-IV). 1994; 4th Edition .Washington, D.C.
9. Kessler RC. Post-traumatic stress disorder: The burden to the individual and to society. Journal of Clinical Psychiatry 2000; 40:409-418.
10. Hepp U, Gamma A, Milos G, Eich D, Ajdacic-gross V, Rossler W et al. Prevalence of exposure to potentially traumatic events and PTSD: The Zurich cohort study. European Archives of Psychiatry and Clinical Neuroscience 2006;256:151-158.
11. Kessler RC, Sonnega A, Bromet E, Nelson CB: Posttraumatic stress disorder in National Comorbidity Survey. Archives of General Psychiatry 1995;52:1048-1060.
12. Prevention CfDCa, (2014). IERH Scientific Publications: Mental Health in Conflict-Affected Populations: Fact Sheet.
13. Agbir TM, Audu MD, Obindo JT et al. Post−traumatic stress disorder among internally displaced persons in Riyom, Plateau State, North Central Nigeria. Journal of Medicine Research and Practice 2016; 4&5:13-17.
14. Sheikh TL, Mohammed A, Agunbiade S, Ike J, Ebiti WN, Adekeye O. Psycho−trauma, psychosocial adjustment, and symptomatic post−traumatic stress disorder among internally displaced persons in Kaduna, Northwestern Nigeria. Front Psychiatry

2014;5:127.
15. Roberts B, Ocaka KF, Browne J, Oyok T, Sondorp E. Factors associated with post‑traumatic stress disorder and depression amongst internally displaced persons in Northern Uganda. BMC Public Health 2010;10:518
16. Karunakara UK, Neuner F, Schauer MT, et al. Traumatic events and symptoms of post-traumatic stress disorder amongst Sudanese nationals, refugees and Ugandans in the West Nile. Afr Health Sci. 2004;4: 83-93.
17. Njau J.W Post-traumatic stress disorder among heads of households of ethnic clashes survivors in the rift valley province, Kenya: a comparative study. Thesis University of Nairobi, 2005.
18. National Population Commission, NPoC (2013): Nigeria's unemployment rate rises to 23.9% —NPC, Punch Newspaper, October 13, 2013
19. Citizenship and Leadership Training Centre, Nigeria, Build the Man Build the Community. Available online from.*http://cltc.gov.ng/*
20. Kish L. Survey Sampling. John Whilley and Sons, New York; 1965
21. Adewuya AO, Ola BA, Aloba OO. Prevalence of Major depressive disorder and a validity of beck depression inventory among Nigerian adolescent. Eur Child. Adolescent psychiatry 2007; 16: 287-292.
22. Borroffka A, Olatawura MO. Community Psychiatry in Nigeria: The current status. International Journal of Social Psychiatry 1976;23:1154-1158
23. Nick Idoko. Youth Violence- A challenge for international co-operation In ternational Conference, 14-16, November, 2007.
24. National Population Commission (Nigeria) ICF International. Nigeria Demographic and Health Survey 2013. Abuja: NPC & ICF International; 2014Demographic and Health Survey (2003).
25. Ayazi T, Lien L, Eide AH, Ruom MM, Hauff E. What are the risk factors for the comorbidity of posttraumatic stress disorder and depression in a war-affected population? a cross-sectional community study in South Sudan:BioMed Central Psychiatry 2012;12:175.https://doi.org/10.1186/1471-244X-12-175.
26. Lund C, Breen A, Flisher AJ, et al. Poverty and common mental disorders in low and middle income countries: A systematic review. Soc Sci Med. 2010;71:517–528. http://dx.doi.org/10.1016/j.socscimed.2010.04.027.
27. Creamer M, Burgess P, McFarlane AC. Posttraumatic stress disorder: Findings from Australian National Survey of mental health and wellbeing. Psychological Medicine 2001; 31: 1237-1247.
28. Kessler RC, Sonnega A, Bromet E, Nelson CB: Posttraumatic stress disorder in National Comorbidity Survey. Archives of General Psychiatry 1995; 52:1048-1060.
29. Schiraldi, G.R.The Post-Traumatic Stress Disorder Sourcebook: A Guide to Healing, Recovery, and Growth. Los Angeles: Lowell House2000).
30. Maigari YT, Moses DA, Davou FJ, Tungchama FP, Suwa GG. Post-Traumatic Stress Disorder in Dogonahawa and Zawan, North-Central Nigeria, Four-Years after Communal Violence: Prevalence and Risk Factors.
31. Journal of Medical Science and Clinical Research 2017 vol 5 issue 2 pp 17231-1740. DOI: https://dx.doi.org/10.18535/jmscr/v5i2.02
32. Wolfe, J., Erickson, D.J., Sharkansky, E.J., King, D.W., & King, L.A. Course and predictors of posttraumatic stress disorder among Gulf War veterans: A prospective analysis. Journal of Consulting and Clinical Psychology 1999; 67(4): 520-528.