

Volume XIV Issue III Version I 25

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Received: 7 December 2013 Accepted: 2 January 2014 Published: 15 January 2014

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Abstract

Substance use disorders have been given increase recognition recently in community and clinical studies. The study investigated relationship between depression, paranoid ideation and substance abuse among Nigerian military personnel deployed for peace support operation. A total of twenty two thousand and four hundred (n=22400) Nigerian Army personnel marked for United Nations peace support operation in Sudan and Liberia participated in the cross sectional study, using a 244-item structured self-report questionnaire and Multi-drug one step Multi-Line Screen Test Device (Urine). The mean age of the participants was 32.4 years ($SD \pm 5.1$). A positive relationship of depression ($r=.71$, $df = 22399$, $P < .05$) and paranoid ideation ($r=.65$, $df = 22399$, $P < .05$) with substance abuse was observed. 18.5

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Index terms— substance use disorders, depression, paranoid ideation, substance abuse, nigerian military personnel, alcohol, cannabis and tobacco.

Abstract-Substance use disorders have been given increase recognition recently in community and clinical studies. The study investigated relationship between depression, paranoid ideation and substance abuse among Nigerian military personnel deployed for peace support operation. A total of twenty two thousand and four hundred (n=22400) Nigerian Army personnel marked for United Nations peace support operation in Sudan and Liberia participated in the cross sectional study, using a 244-item structured self-report questionnaire and Multi-drug one step Multi-Line Screen Test Device (Urine). The mean age of the participants was 32.4 years ($SD \pm 5.1$). A positive relationship of depression ($r=.71$, $df = 22399$, $P < .05$) and paranoid ideation ($r=.65$, $df = 22399$, $P < .05$) with substance abuse was observed. 18.5% of Nigerian Army personnel abuse one of alcohol, cannabis and tobacco, and 8.5% abuse at least two of alcohol, cannabis and tobacco. 12.3% of troop deployed for peace support operation had depressive symptoms while 13.2% had paranoid ideation symptoms. This establishes a relationship between depression, paranoid ideation and substance abuse. Policies and actions should be directed towards holistic approach on management of dual disorders in the Nigerian Military.

Index terms: substance use disorders, depression, paranoid ideation, substance abuse, nigerian military personnel, alcohol, cannabis and tobacco.

1 I.

Background substance use related disorders have serious consequences on self and others. Substance uses, particularly the use of illicit drugs, injecting drug use or alcohol bingeing are associated with high rates of mortality and morbidity. Injecting drug users carry the risk of overdose leading to respiratory depression, seizures and death. There is a heightened risk of infection from both injecting drug use and unprotected sexual contact to HIV, Hepatitis B & C and other conditions. Alcohol intoxication is associated with violence. Substance abuse, in particular alcohol, tobacco and cannabis abuse, are among the most critical adverse impacts of military service. They are related to many negative behaviors and impedes the veteran's ability to resolve issues such as trauma and successfully reintegrate into their families, retain employment, and maintain stable housing. Military personnel have a drinking rate of 16.1%, which is higher than the civilian rate of 12.9% (RTi international, 2006).

Acute intoxication with cannabis can produce altered sensorium, disinhibition, paranoid ideation, mood changes and hallucinatory experiences. Cocaine and stimulants like amphetamines can also produce acute

3 METHOD

45 behavioural changes. Inhalants cause severe organ damage and can seriously affect the brain. Of all individuals
46 with a lifetime diagnosis of schizophrenia (1.5% of the U.S. population), 47.3% met criteria for some form of
47 substance abuse. Rates of substance abuse among individuals with bipolar disorder are several times higher than
48 in those with unipolar depression. A prevalence study of depression in Southwest Nigeria reported a prevalence
49 of 12.6%, which is at the upper end of the globally reported range.

50 Military families face unique stressors associated with deployment and reintegration during deployment,
51 families are faced with worries about the safety of the service member, a need to adapt to changing situations and
52 increased responsibilities. When war fighters return, often recovering from physical and psychological injuries,
53 the challenge of reintegrating into family life, reconnecting to social supports, finding civilian employment and
54 redefining their roles in the community can be overwhelming. Combat-related difficulties, such as Traumatic Brain
55 Injury (TBI) and Post-Traumatic Stress Disorder (PTSD), the signature injuries of Operation Enduring Freedom
56 (OEF)/Operation Iraqi Freedom (OIF), have a significant impact on returning war veterans and their family
57 relationships. The presence of TBI and PTSD increase the likelihood of other emotional problems (American
58 Psychological Association [APA], 2007) and substance abuse, which increase family stress and the risk of intimate
59 partner violence.

60 Depression is a common mental disorder that presents with depressed mood, loss of interest or pleasure,
61 decreased energy, feelings of guilt or low self-worth, disturbed sleep or appetite, and poor ^f Substance Abuse
62 among Nigerian Military concentration. Moreover, depression often comes with symptoms of anxiety. These
63 problems can become chronic or recurrent and lead to substantial impairments in an individual's ability to take
64 care of his or her everyday responsibilities. At its worst, depression can lead to suicide. Almost 1 million lives
65 are lost yearly due to suicide, which translates to 3000 suicide deaths every day. For every person who completes
66 a suicide, 20 or more may attempt to end his or her life (WHO, 2012).

67 Despite evidence that the prevalence of psychotic symptoms and paranoid ideation in older community-dwelling
68 adults is not uncommon—i.e., rates of up to 10% have been reported, depending on sample characteristics and
69 selection criteria, data in the United States have been limited to three studies in the past 20 years, all of which
70 focused exclusively on paranoid ideation. Two were general community studies conducted in rural and urban
71 areas in North Carolina, and the third involved a sample of African Americans recruited from senior centers
72 in New Orleans. This paucity of data is unfortunate since psychotic and paranoid symptoms in older persons
73 without cognitive impairment have been linked to the development of dementia, higher mortality, substance
74 abuse, impaired functional ability, depression, visual and hearing impairments, and poor physical health. In
75 the United States, among all age groups, racial differences in paranoid symptoms have been noted, with blacks
76 having a significantly greater prevalence than whites. This finding takes on added clinical importance because
77 older blacks are among the most rapidly expanding population subgroups.

78 Reciprocal relations may exist among depression, paranoid ideation, and drug use. First, military personnel
79 may self-medicate depression through drug use, and drug use may increase vulnerability to depression by exerting
80 neurophysiological or behavioral changes on the user: 9.0–47.9% of persons exhibit comorbid depression and
81 drug use (O'Neil, Conner, & Kendall, 2011). Second, paranoid ideation and drug use may follow a common
82 psychosocial pattern of externalizing behavior: an externalizing factor accounts for 79% and 95% of paranoid
83 and drug use, respectively (Measelle, Slice, & Hogansen, 2006). Third, a reciprocal association may exist between
84 paranoid ideation and depression (Johnson, Cohen, Kasen, & Brook, 2005), mediated by disrupted interpersonal
85 functioning, and social rejection by prosocial peers: 22.7–83.3% of those with depression may also meet criteria
86 for paranoid ideation, while 8.5–45.4% of those with conduct disorder also met criteria for depression (Angold
87 & Costello, 1993). A study undertaken from 1993 to 1998 of comorbid psychiatric illness and substance misuse
88 estimated that there were at least 195,000 comorbid service users and 3.5 million GP consultations involving
89 comorbid service users of all ages in England and Wales (Fisher et al., 2004).

90 The relatively high rates of comorbidity among depression, paranoid ideation, and drug use, and the scarcity
91 of longitudinal, population-based studies on the relations among the three symptom domains underscore the
92 importance of research on comorbidity among depression, paranoid ideation, and drug use. Nigerian Army
93 pattern of illicit drug use have contributed to the comorbidity of mental health and addictive disorders in the
94 Nigeria Armed Forces. The goal of this study is to assess the relationship among depression, paranoid ideation
95 and substance abuse among military personnel deployed for peace support operation. Specifically, the objectives
96 of the study are to: i. Establish prevalence of substance abuse (alcohol, tobacco and cannabis) ii. Discover if
97 depression, paranoid ideation will have any relationship with substance abuse among Nigerian Army personnel
98 deployed for Peace Support Operation. iii. Prevalence of depression and paranoid ideation.

99 2 II.

100 3 Method

101 Cross sectional design was adopted. The independent variables were depression and paranoid ideation. The
102 dependent variable was substance abuse. The study was conducted in eleven Barracks in Nigeria. The barracks
103 were in Badagry, Bama; Owerri, Benin, Akure, Agenebode, Ijebu-ode, Zuru, Owode, Maiduguri and Kotangora.
104 Prospective participants met inclusion/exclusion criteria which include: i. Currently serving Nigerian Army

105 personnel. ii. Nominated by Nigerian Army Headquarters for United Nations peace support operation in Sudan
106 and Liberia and iii. English literate.

107 A total of twenty two thousand and four hundred (n=22400) Nigerian Army Officers and soldiers earmarked
108 for United Nations PSO between June 2010-July 2013 participated in the study. Out of which 21280(95%) were
109 male while 1120(5%) were female. The mean age of the participants was 32.4years (SD±5.1).The study was
110 conducted between June 2010-July 2013.

111 **4 III.**

112 **5 Instruments**

113 Data was collected with the use of a 244-item self-report questionnaire and Multi-drug one step Multi-Line Screen
114 Test Device (Urine). The questionnaire made up of three sections. The 9-item Section A was designed to tap
115 information about respondents' sociodemographic characteristics. ??1991).

116 **6 Multi-drug one step Multi-Line Screen Test Device (Urine)**

117 It is a rapid one step screening test for the simultaneous, qualitative detection of multiple drugs and drug
118 metabolites in human urine at the following cut-off concentrations in urine: Multi-drug one step Multi-Line
119 Screen Test Device (Urine) is an immunoassay based on the principle of competitive binding. Drugs which may
120 be present in the urine specimen compete against their respective drug conjugate for binding sites on their specific
121 antibody. During testing, a urine specimen migrates upward by capillary action. A drug, if present in the urine
122 specimen below its cut-off concentration, will not saturate the binding sites of its specific antibody. The antibody
123 will then react with the drug-protein conjugate and a visible colored line will show up in the test line region of
124 the specific drug strip. The presence of drug above the cut-off concentration will saturate all the binding sites of
125 the antibody. Therefore, the colour line will not form in the test line region. A drug-positive urine specimen will
126 not generate a colored line in the specific test line region of the strip because of drug competition, while a drug-
127 negative urine specimen will generate a line in the test line region because of the absence of drug competition. To
128 serve as a procedural control, a colored line will always appear at the control line region, indicating that proper
129 volume of specimen has been added and membrane wicking has occurred.

130 **7 IV.**

131 **8 Data Collection**

132 The researchers obtained permission from the Nigerian Army Headquarters as it was part of medical screening
133 for Military personnel deployed for United Nations peace support operation. The researchers discussed the
134 purpose of the study to the participants and administered the questionnaires to them. They were allowed to
135 read the questionnaire and respond accordingly. This took an average of 70 minutes. A total of twenty-two
136 thousand and four hundred(n-22400) participated in the study. This was proceeded by one on one interview with
137 each of the participants, where discrepancies were noticed between ASSIST response and drug abuse tell tales
138 signs,Multi-drug one step Multi-Line Screen Test were conducted.All questionnaire were correctly and completely
139 filled. Completed questionnaires were sorted, coded, and entered into the Statistical Package for Social Sciences
140 for data analysis. 5 revealed that Depression had significant positive relationship with substance misuse ($r=.71$,
141 $P<.05$). This means depression coefficient of determination ($r^2 = .50$) on substance abuse was 50%.Paranoid
142 ideation also had significant relationship with substance misuse among NA personnel ($r=.65$, $P<.05$). It implies
143 that coefficient of determination of paranoid ideation on substance abuse was 42%.

144 **9 Results**

145 **10 PREVALENCE OF SINGLE SUBSTANCE ABUSE**

146 **11 Prevalence of Psychopathology**

147 Table ?? : Summary of multiple regression showing independent and joint prediction of depression and paranoid
148 ideation on substance abuse Table ?? shows that depression and paranoid ideation had significant independent
149 and joint prediction on substance abuse ($R^2 = .450$; $F (2,22397) = 5.15$; $P<.05$). In term of independent effect,
150 depression predicted substance abuse ($B = .653$, $t = 2.74$; $P<.05$).The variable accounted for 65.3 percent ($R^2 = .653$)
151 variance in substance abuse. Paranoid ideation also predicted substance abuse ($B = .596$, $t = -3.45$;
152 $P<.05$).It accounted for 59.6% variance in substance abuse.

153 VI.

154 **12 Discussion**

155 The result from the present study showed that 18.5% of Nigerian Army personnel abuse one of alcohol, cannabis
156 and tobacco.8.5% abuse at least two of alcohol, cannabis and tobacco. 12.3% of troop deployed for peace support
157 operation had depressive symptoms while 13.2% had paranoid ideation symptoms. Depression and paranoid

13 CONCLUSION

158 ideation had significant positive relationship with substance abuse. Further analysis revealed that depression
159 contributed up to 65.3% in substance abuse while paranoid ideation accounted for 59.6% variance in substance
160 abuse.

161 In agreement with earlier findings (Bennett, Bellack, & Gearon, 2001) It is estimated that the lifetime prevalence
162 of substance abuse among individuals with depression and schizophrenia is about 50% with 20-65% having current
163 substance abuse. In the Epidemiologic Catchment Area Study (Regier et al., 1990), the lifetime prevalence of
164 any Substance Use Disorder was 16.7% in the general population whereas the rate was 56% among individuals
165 with bipolar disorder. Patients with substance abuse and severe mental illness have a poorer and more difficult
166 treatment course than patients with single disorders (Dixon, 1999). Also, in line with the National Comorbidity
167 Study in the United States, a nationally representative population study, about 41-65% of participants with any
168 lifetime substance use disorder also had a lifetime history of at least one mental health disorder (Kessler et al.,
169 1996). The most common individual diagnosis was conduct disorder (29%), followed by major depression (27%),
170 and social phobia (20%). Among those with a lifetime history of any mental disorder, 51% had a cooccurring
171 addictive disorder, with those respondents with conduct disorder or adult antisocial personality having the highest
172 prevalence of lifetime Substance Use Disorders (82%), followed by those with mania (71%), and PTSD (45%).

173 The relatedness of depression and paranoid ideation with substance abuse might result from the nature of
174 military job, whether deployed or not, in most cases involves considerable stress. Military personnel generally
175 work long hours, and in some respects are never "off duty" even when not officially working. There is often less
176 liberty or freedom of choice in military jobs, where project activities can be highly regimented and must follow
177 strict time schedules. In most cases military personnel become drug addicts in service as a result of perceived
178 combat fatigue with alcohol and other substances. Dual disorders often common in military service because of
179 reciprocal relationship among neurophysiological changes, common psychosocial pattern of externalizing behavior,
180 disrupted interpersonal functioning, and social rejection by prosocial peers.

181 -VII.

182 13 Conclusion

183 One of the major contributions of this study is the high predictability variation of substance abuse by depression
184 and paranoid ideation in the Nigerian military population. Going by these findings, the Nigerian Army should
185 provide holistic approach towards substance use disorders. There is need to sustain psychological evaluation of
186 potential cadets/recruits and troops for and after prolonged deployment, and incorporation in annual medical
187 tests. Measures for the prevention and control of substance use and misuse should be intensified and sustained
188 at all levels. Creation of mental health institute for Army to undertake research, training and treatment is very
important.



Figure 1:

Involvement Screening Test (WHO ASSIST V 3.0, 2002). The instrument measured and rapid drug diagnostic test for in vitro diagnostic only for substance abuse. Re-validation yielded Cronbach alpha of 0.75 designed to obtain information on depression, paranoid ideation, somatization, obsessive and compulsive, interpersonal sensitivity, anxiety, and psychotism (Symptoms Checklist(SCL-R-90). The self-report Likert-type instrument has five graduated responses ranging

from extremely to not at all. It had a reliability coeffi

of .80; a re-validation yielded an alpha coefficient of .7

The instrument was validated in Nigeria by Omoluabi

Section B was a 126-item World Health Organization-Alcohol, Smoking substance

Figure 2:

1

Category	No.	Percentage
Single drug	4060	18.1
Multiple drugs	1895	8.5
Non	16445	73.4
	22400	100

The table 1 showed that 4060(18.1%) abuse single drug, 1895(8.5%) abuse multiple drugs.

Figure 3: Table 1 :

2

PREVALENCE OF SUBSTANCE ABUSE

SUBSTANCE	FREQUENCY	PERCENTAGE
Cannabis	544	13.4
Alcohol	2233	55.1
Tobacco	1278	31.5
	4060	
544	2233	13.4
cannabis	1278	55.1
		31.5
Alcohol		
Tobacco		

Table 2 revealed that among single substance abusers;544 (13.4%) abuse cannabis,2233(55.1%) abuse alcohol while 1278(31.5%) abuse tobacco.

Figure 4: Table 2 :

13 CONCLUSION

3

Substances	Frequency	Percentage
Alcohol and cannabis	210	11.1
Alcohol and tobacco	1010	53.3
Tobacco and Cannabis	187	9.9
Alcohol, tobacco and cannabis	489	25.8
	1895	100

Table 3 showed that among multiple substance abusers, 210(11.1%) abuse alcohol and cannabis, 1010(53.3%) abuse alcohol and tobacco, 187(9.9%) abuse tobacco and cannabis while 489(25.8%) abuse alcohol, tobacco and cannabis.

Figure 5: Table 3 :

4

PREVALENCE OF MULTIPLE

	SUBSTANCE ABUSE	
1010		489
210	187	
Alcohol and	Alcohol and tobacco	Tobacco
cannabis		and
		cannabis
		and
		tobacco
Psychopathology	Frequency	Percentage
Depression	2771	12.3
Paranoid ideation	2947	13.2
Non/Others	16682	74.4
	22400	
2771	16682	
depression	2947	
	paranoid ideation	
		non/others

Figure 6: Table 4 :

5

	Mean	SD	1	2	3
Depression	44.5	12.3	—		
Paranoid ideation	33.5	9.5	**.69 —		
Substance abuse	43.2	11.3	**.71 **.65	—	

*P<.05

Table

Figure 7: Table 5 :

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