

## Pattern of Substance Use Among Nigerian Air Force (NAF) Personnell at Sam Ethan Air Force Base, Ikeja-Lagos, Nigeria

Article by Air Commodore Bashir Adam Yakasai  
(Rtd). MBBS, Cert Av. Med, DC Neurol, DPM, MSc, FMCPsych, MNIM  
Email:- ybashiradam@yahoo.com

### Abstract

**Objective:** The study examined the pattern of Substance Use among the Nigerian Air Force Personnell.

**Method:** All the participants were airforce personnel. Officers and Men were randomly selected (N=250) and each subject was assessed using; 1) a Health Questionnaire {that assessed socio-demographic variables as well as the pattern of use and consumption of liquor}, 2) Alcohol and drug sections of the Schedule for Clinical Assessment in Neuropsychiatry (SCAN), and the 28 – item General Health Questionnaire (GHQ -28). The personnel were informed that completion and returning the questionnaires would indicate consent to participate in the research.

**Results:** One hundred and ninety males and sixty females comprising officers and men participated. The mean age of the group was 30.9 years, with a range of 21 – 44 years; SD 4.35. One hundred and eight (42.6 percent) were 20 – 29 years, while one hundred and thirty (52 percent) were 30 – 39 years, and Twelve (5.4 percent) were 40 and above years. The difference in mean age between officers and men was not statistically significant following analysis of variance (ANOVA),  $F=2.59$ ,  $P=0.148$ . The most commonly used substances were mild stimulants (coffee and kolanuts), alcohol, cigarette, cannabis, and hyposadatives in that order. About the same trend was observed for the lifetime use. As many as 158 (63.3 %) of the respondents were current users of alcohol and almost everyone in the sample 92% have used alcohol in their lifetime. Fifteen 6% of the respondents were currently using cannabis, while 18.7% were lifetime users. Disorders were recorded for past year (ie criteria met within the previous 12 months) and lifetime (ever met criteria) using SCAN. Overall, 21 (8.3%) and 6 (2.3%) of the respondents DSM IV diagnostic criteria for alcohol abuse and dependence respectively in the past year; Eleven (4.7%) and 13 (5.3%)met the criteria for nicotine abuse and dependence respectively in the past year; 10 (4.0%) and 3 (1.0%)met the criteria for cannabis abuse and dependence respectively in the past year. A total of 42 respondents (16.8%) scored eight and above on the GHQ-28 scale. Thus the probable psychiatric morbidity rate for the cohort was about 17%.

**Keywords:** Military, SCAN, GHQ, Substance Use, Psychiatric Morbidity.

### Introduction

Substance and alcohol use have historically been common among military personnel. Substances have been used by soldiers to reduce pain, lessen fatigue, and increase alertness or to help them cope with boredom or panic that accompany battle. During the U.S. Civil War, medical use of opium resulted in addiction among some soldiers. In the modern U.S. military, substance use became a recognized problem during the Vietnam War in the late 1960s and early 70s. Approximately 20 percent of Vietnam War veterans reported having used narcotics (e.g., heroin, opium) on a weekly basis, and 20 percent also were considered to be addicted based on reported symptoms of dependence.<sup>1</sup> Similar to substance use, heavy drinking in the military has been an accepted custom and tradition.<sup>2</sup> In the past, alcohol was thought to be a necessary item for subsistence and morale and, as such, was provided as a daily ration to sailors and soldiers. Within the predominantly male U.S. military population, heavy drinking and being able to "hold one's liquor" have served as tests "of suitability for

the demanding masculine military role"<sup>2</sup> A common stereotype has been to characterize hard-fighting soldiers as hard-drinking soldiers. Alcoholic beverages have been available to military personnel at reduced prices at military outlets and until recently during "happy hours" at clubs on military installations<sup>3</sup>. In addition, alcohol has been used in the military to reward hard work, to ease interpersonal tensions, and to promote unit cohesion and camaraderie<sup>4</sup>.

Paradoxically, substance abuse are strongly opposed within the armed forces worldwide, because of their negative effects on the health and well-being of military personnel and because of their detrimental effects on military readiness and the maintenance of high standards of performance and military discipline<sup>5</sup>. In the military, drug abuse is defined as the wrongful use, possession, distribution, or introduction onto a military installation of a controlled substance (e.g., marijuana, heroin, cocaine), or intoxicating substance (other than alcohol). Alcohol abuse is defined as alcohol use that has adverse effects on the user's health or behaviour, family, community, or the Department of Defence.

Pattern of substance use has been studied in many populations around the world. However, findings on the risk factors for substance use disorder in the military have remained inconsistent due to variations in methodology. There are few military based studies which have assessed the pattern of substance use among the Air Force in Nigeria. Therefore, this paper is a cross sectional study that tries to address the problems of substance use in the NAF.

## Methods

The study was conducted at the Sam Ethnan Base, Ikeja-Lagos, Nigeria. The Sam Ethnan Airforce Base, is the largest base in the Nigerian Air Force (NAF), with a population of about 2000 personnel consisting of officers, air men and air women mostly living with their families. All the subjects involved in this study were members of the Nigerian Air Force irrespective of their ages, rank and length of service years (although a minimum age of 18 years was observed). Personnel, who are physically as well as mentally fit and had no military charges, were allowed to participate. Each subject was randomly assessed using; 1) a Health Questionnaire (that assessed socio-demographic variables as well as the pattern of use and consumption of liquor), 2) Alcohol and drug sections of the Schedule for Clinical Assessment in Neuropsychiatry (SCAN), and the 28 – item General Health Questionnaire (GHQ - 28). The personnel were informed that completion and returning the questionnaires would indicate consent to participate in the research.

## Results

The result of this study would be presented under the following headings:

- a. The socio-demographic characteristic of the group.
- b. Prevalence and pattern of substance use and related disorders.
- c. Relationship between substance use disorders and socio-demographic variables.
- d. Psychiatric morbidity rates among the respondents as determined by the GHQ.

***Socio-demographic characteristic of the group.*** Table 1, summarises the socio-demographic characteristic of the respondents. One hundred and ninety males and sixty females comprising officers and men participated. The mean age of the group was 30.9 years, with a range of 21 – 44 years; SD 4.35. One hundred and eight (42.6 percent) were 20 – 29 years, while one hundred and thirty (52 percent) were 30 – 39 years, and Twelve (5.4 percent) were 40 and above years. The difference in mean age between officers and men was not statistically significant following analysis of variance (ANOVA),  $F=2.59$ ,  $P=0.148$ .

**Table 1.** Socio demographic characteristic of the subjects

Characteristics	Frequency	Percentage
<b>Sex: Male</b>	190	76
Female	60	24
<b>Total</b>	<b>250</b>	<b>100</b>
<b>Age Group (years)</b>		
20 – 29	108	42.6
30 – 39	130	52
40 and above	12	5.4
<b>Total</b>	<b>250</b>	<b>100</b>
<b>Ranks</b>		
Airman/woman	215	76.3
Officers	<b>35</b>	23.7
<b>Total</b>		<b>100</b>
<b>Marital status</b>		
Single	120	48
Married	119	47.6
Divorce/ Widowed	11	4.4
<b>Total</b>	<b>250</b>	<b>100</b>
<b>Educational Status</b>		
Secondary	135	56.3
Diploma	73	31.4
Degree	42	12.3
<b>Total</b>	<b>250</b>	<b>100</b>

**Prevalence of Substance Use**

**Table 2 presents the prevalence of substance use.** The most commonly used substances were mild stimulants (coffee and kolanuts), alcohol, cigarette, cannabis, and hypnosadatives in that order. About the same trend was observed for the lifetime use. As many as 158 (63.3 %) of the respondents were current users of alcohol and almost everyone in the sample 92% have used alcohol in their lifetime. Fifteen 6% of the respondents were currently using cannabis, while 18.7% were lifetime users.

**Table 2.** Prevalence of Substance Use

Substances (n=250)	Current Use (%)	Lifetime Use (%)
Alcohol	158 (63.3%)	230 (92%)
Cigarette	72 (29%)	140 (57.7%)
Cannabis	15 (6.0%)	47 (18.7%)
Mild Stimulants	180 (72.2%)	241 (96.7%)
Hypnosedatives	3 (1.3%)	97 (38.7%)
Amphetamine	0 (0.0)	19 (7.6%)
Cocaine/Heroin	Nil	Nil

**Current usage pattern of commonly used substances.** In Table 3, while a significant proportion of current users of cigarette and cannabis were daily users, a high proportion of current users of alcohol tended to use it on a weekly (40%) and monthly (30%) basis. No current use was recorded for amphetamine and heroine, so also no daily use was noted for hypnosedatives.

**Table 3.** Current Usage Pattern

Substances	N	Daily Use (%)	Weekly Use (%)	Monthly Use (%)	Occasional Use (%)
Alcohol	158	8 (5.3)	63 (40)	47 (30)	39 (24.7)

Cigarette	72	46 (52.9)	19 (26.4)	2 (2.3)	13 (18.3)
Cannabis	15	8 (55.6)	3 (16.7)	1 (5.6)	3 (22.2)

**Prevalence of Substance Use Disorder.** Table 4 shows the prevalence of substance use disorders in the subjects. Disorders were recorded for past year (i.e criteria met within the previous 12 months) and lifetime (ever met criteria) using SCAN. Overall, 21 (8.3%) and 6 (2.3%) of the respondents DSM IV diagnostic criteria for alcohol abuse and dependence respectively in the past year; Eleven (4.7%) and 13 (5.3%) met the criteria for nicotine abuse and dependence respectively in the past year; 10 (4.0%) and 3 (1.0%) met the criteria for cannabis abuse and dependence respectively in the past year. No dependence Syndrome was noted for amphetamine, cocaine, and heroin in the past year. The lifetime acute intoxication from alcohol was 2.3%; lifetime uncomplicated withdrawal from alcohol was 0.7%. The prevalence of cigarette abuse was higher among the Other ranks than Officers, but this was not statistically significant,  $x=2.78$ ,  $P=0.0952$ .

**Table 4.** Prevalence of Substance Use Disorder

Substance N=250	Past year Abuse (%)	Lifetime Abuse( %)	Past year Dep (%)	Lifetim e Dep (%)	Total Past yr Abuse/ Dep (%)	Other Past yr/Disor der (%)	Other Lifetim e Dis (%)
Alcohol	21 (8.3)	31 (12.3)	6(2.3)	9 (3.6)	10.6	3 AI (1.0)	6AI (2.3) 2UW(0. 7)
Cigarette	11(4.6 )	29 (11.6)	13(5.3)	21(8.3)	10.0	3 UW	9UW(3. 6)
Cannabis	10 (4.0)	11 (4.6)	3 (1.0)	4 (1.7)	5.0	---	1 (2.5) AI
Mild Stimulants	4 (1.7)	7 (3.0)	2 (0.2)	5 (2.0)	2.3	2 UW	4UW(1. 7)
Cocaine	2 (0.7)	6 (2.3)	0	0	0	--	1 (0.25) IA
Heroin	0	3 (1.0)	0	0	0	--	--

AI = Acute Intoxication. UW = Uncomplicated Withdrawal.

**Preferred Alcohol type.** Table 5 shows the preferred alcohol type by the respondents. A significant proportion of alcohol users (62.0%) preferred to use larger beer. Only 6.9% preferred drink locally made preparation such as palm wine, burkutu, pito etc.

**Table 5.** Preferred Type of Alcohol

Alcohol Type N= 158	Frequency	Percentage
Bear alone	98	62.3
Bear & Wine	15	9.6
Bear & Hot	6	4.0

Bear/Hot/Wine	5	3.3
Wine alone	8	4.7
Local preparations	11	6.9
Other combinations	12	7.2

Hot drink = gin/whiskey/brandy etc.

Local preparations = palm wine/ burkutu/pito etc.

**Quantity of Alcohol consumed.** Table 6 shows the amount of alcohol consumed at a time. A unit of alcohol containing 8mg of alcohol was approximated to half a bottle of bear or wine, a bottle of small stout, a glass of wine, a tot of hot drink. The range was 1-20, with a mean of 4.8. The heavy drinkers tended to drink at same rate on weekdays, and weekends.

**Table 6.** Quantity of Alcohol consumed

Unit of Alcohol N=158	Frequency	Percentage
<5	105	67.03
5- 10	43	27.5
11 - 20	10	6.15

**Quantity of Cigarette smoked.** Table 7 shows the amount of cigarette smoked. A range of 1-36; mean 7.55. The heavy smokers tended to smoke continuously on a 24 hourly basis.

**Table 7.** Quantity of cigarette smoked

No of Cig Stick N=72	Frequency	Percentage
1 - 4	35	48.82
5 - 14	23	32.35
15 - 20	9	12.94
21 - 36	5	5.88

**Quantity of Cannabis smoked.** Table 8, shows the amount of cannabis smoked. The usual quantity of cannabis consumed was measured in wraps.

**Table 8.** Quantity of daily Cannabis consumed

No of Wraps N = 15	Frequency	Percentage
1	5	35.7
2	4	30.7
3	3	17.5
4	2	16.1

**Age at first cigarette use.** Table 9 shows the age when cigarette was first used, Mean age of officers 19.2, SD =2.5; mean age of Other ranks 19.3, SD= 3.97. The difference between mean ages of officers and other ranks was not statistically significant, F=1.23, P=0.89.

**Table 9.** Age at first use of cigarette

Age NO=72	Frequency	Percentage
9-15	11	15.0
16-19	31	43.13
20-24	22	31.25
25-30	8	10.62

**Psychiatric Morbidity (GHQ Score).** A total of 42 respondents (16.8%) scored eight and above on the GHQ-28 scale. Thus the probable psychiatric morbidity rate for the cohort was about 17%. Fourteen out of the 28 items were reported by at least 10% of the respondents. The most frequently reported symptoms were “felt that you are ill”, 23.5% “lost sleep over worry”, 21.3%, “getting any pains in the head”, 19.2% “getting edgy and bad tempered”, many of these were somatic and anxiety symptoms.

**Table 10.** Frequency of GHQ Score

GHQ Score	Frequency	Percentage
0-3	145	58
4-7	63	25
8 and above	42	16.8

## Discussions

Similar to most military personnel, the subjects in this study consists of bastion of young people (mean age, 30.90 SD+4.35%, with males consisting of 76% while the majority were Other Ranks (76.3%). This is comparable with studies elsewhere, for example, the rates of heavy drinking in the United States military is nearly four times higher among young men<sup>6</sup>. Interestingly, researches have indicated young people among the civilian population being at greater risk for drug abuse in general and alcohol abuse in particular<sup>7,8,9</sup>. However, the rate of heavy drinking in young military men is about twice that of their civilian counter parts as reported in the Department of Defence (DoD) News, April 5, 2012. The high literacy rate among the subjects is a reflection of the normal tendency for the Nigerian Air Force (NAF) to recruit only educated persons, and also to the laudable program of staff development in the NAF.

The life time prevalence of alcohol, and cannabis use in the cohort was 63.3% and 18.7% respectfully. In a much wider study, it was reported that almost half of the active duty service members (47%) reported binge drinking. In addition, 30% of the US soldiers were current users of cigarette smokers<sup>5</sup>. This finding is very much similar to our study in which 29% were current users of cigarette. Furthermore, these prevalence rates can be compared with that of general population samples<sup>3,8</sup>. Based on work at the middle belt area of Nigeria, it was estimated that about 50% of students and adults drink alcohol regularly<sup>8</sup>. The high rate of industrial beer (62.3%) and wine (21.6%) could be attributed to the relatively higher affluence among the military personnel, compared with the civil general population<sup>10</sup>.

One of the most common comorbid conditions with SUDs is depression. In the 2005 and 2008 HRB surveys, both Army and Marine Corps service members had the highest rate on a depression symptom screener (24% and 26%, respectively)<sup>11</sup>. Furthermore, it was, also found that those service members most likely to screen positive for depression also screened positive for PTSD (71%); reported suicidal thoughts (28%); were partnered, but unaccompanied (23%) or single (21%); and were illicit drug users (21%) or cigarette smokers (21%)<sup>6</sup>. By far, the most significant predictor of whether a service member would screen positive for depression was if the member screened positive for PTSD. In a study of service members with OEF and OIF exposure, In a previous study, it was found, that female veterans were at higher risk for a diagnosis of depression than male veterans were, but male veterans had over twice the risk for drug use disorders<sup>12</sup>. This finding is similar to our own study in which the probable psychiatric morbidity was 17%, and the most frequent symptoms on GHQ score were “felt that you are ill” in 23.5%, “lost sleep over worry” in 21.3%.

## Limitation of the study

Several limitations could be identified. Data were collected from only one NAF Base, which would limit the generalizability of findings to other NAF units and formations. In addition, data were collected based on self report and might be misinterpreted by soldiers who do not understand the context of the questionnaires. Another limitation could be the issue of possible bias resulting in giving wrong answers or could be as a result fear of stigmatization or intimidation, even though the study was completely anonymous. Furthermore, the low number of participants and the exclusion of subjects that had other medical problems or military trial could lead to a reduction of the true prevalence of alcohol use and alcohol use disorders.

## Conclusion

The life time prevalence of alcohol, and cannabis use in the NAF was 63.3% and 18.7% respectfully, which is comparable with that of the general population. Most of the subjects were young and majority of them belong to the Rank and Files of the NAF. Interestingly, most of our subjects are well educated and had a flare for expensive and branded alcohol drinks. One of the most common comorbid conditions with SUDs is depression. The probable psychiatric morbidity was 17%, and the most frequent symptoms on GHQ score were “felt that you are ill” in 23.5%, “lost sleep over worry” in 21.3%.

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