

Pattern of Substance Use among Senior Students of Command Secondary Schools in Ibadan, Nigeria

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Abstract

Background: The aim of this study was to assess the pattern of drug use among senior secondary school students within military locations in Ibadan, Nigeria.

Methods: A cross-sectional survey was carried out in 2006.

Results: Five hundred ten students participated with a mean age of 15.0±1.2 years. The prevalence of lifetime use of any substance was 15.3%. Alcohol (33.9%), solvents (17.3%), and tobacco (10.6%) were the most commonly used substances. Only gender and age were associated with the lifetime use of tobacco and solvents ($p < 0.05$).

Conclusion: The information provided a useful baseline on which subsequent interventions could be based and evaluated.

Keywords: Substance use; military; adolescent; pattern.

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Introduction

Stereotypes of psychoactive substance use in military service abound, extending back through the centuries. Rations of rum were deemed essential for soldiers' morale in the American Revolutionary Army and the picture of the hard-drinking United State serviceman has persisted until recently¹. Similarly, soldiers in World Wars 1 and II were issued cigarettes with their rations and were routinely pictured smoking cigarettes. The use of illicit drugs among military personnel in Vietnam was widespread and widely publicized^{2,4}. The findings from the 1985 worldwide survey revealed the pervasive use of alcohol and the substantial use of drugs among military personnel⁵.

Literature on substance use/abuse and psychiatric disorders among the Nigerian Army (NA) personnel is

very scanty. However, in a study on the pattern of psychiatric illnesses in the NA, a prevalence of 13% of substance abuse-related psychiatric disorders among soldiers admitted during and immediately after the Nigerian Civil War was reported⁶. Psychiatrists in military hospitals have also documented a high incidence of drug-related psychiatric disorders and offences among soldiers evacuated from the Economic Community of West African States Monitoring Group (ECOMOG) operations for treatment at the Military Hospital in Yaba, Lagos⁷. Alcohol and tobacco are usually provided in military recreational centres²⁻⁵. The high permissive nature of these gateway substances, therefore, render them readily available in military environments.

Studies have shown that parenting style and influence, cultural permissiveness, peer influence and availability, among other factors, make the youth, particularly those in schools, vulnerable to substance use/abuse^{8,9}. Adolescents, including those in secondary schools in military communities may therefore be at special risk for substance use given these factors. In spite of this, however, the prevalence and pattern of substance use/abuse among adolescents in military environments in Nigeria have not been adequately investigated. The schools located in military barracks offer a unique platform to investigate adolescent practices with respect to the use of both licit and illicit substances. The data from such an investigation will provide baseline information towards preventive drug education programmes for the schools. The main objective of this study was therefore to determine the pattern of substance use among senior students in military secondary schools in Ibadan.

Materials and Methods

The study population was comprised of senior students from two command secondary schools (CSS) located in

the Ojoo cantonment and the Apata barrack in Ibadan, approximately 25 kilometers apart. These schools were established primarily to meet the educational needs of children of service personnel. The entry requirements for the two schools are similar, while they are also governed by the same authority of the 2nd Mechanized Division of the NA in Ibadan. The two schools are co-educational, with classes from junior secondary school 1-3 and senior secondary schools 1-3, made up of several arms. This study was restricted to the students of the senior secondary schools.

The study was a cross-sectional epidemiologic survey using stratified and systematic random sampling techniques to recruit participants. Stratification was by school, class, and gender. A total of 255 participants were allocated to each school. To ensure representation of participants from different classes and gender; allocation of participants was accomplished using the probability proportional to size technique. A systematic random sampling technique was then used to select participants from the classes. Nominal rolls of the senior students in each class served as the sampling frames.

A semi-structured anonymous questionnaire was completed by the students under the guidance of the investigators. The questionnaire was adapted from the instruments used for the 2001 Global Youth Tobacco Survey (GYTS)¹⁰. The face validity of the instrument was assessed during a pretest in a civilian secondary school in Ibadan to ensure the questions were interpreted with the same meanings as intended.

The data were entered, cleaned, and analyzed using SPSS software. Descriptive analyses included frequencies, means, and standard deviations. Bivariate analyses were carried out with a chi-square test to compare responses among groups within the sample. The pattern of substance use among participants was determined by finding the proportions of the respondents reporting lifetime use (ever use) of any substance, lifetime use of specific substances, as well as their use in the last 30 days (current use)

Approval by the University of Ibadan/University College Hospital Institutional Review Committee was obtained before the study was conducted. Also, permission for the study was sought from the responsible authorities, mainly the commandants of the two schools and the Director of Army Education at the 2nd Division Headquarters of the NA in Ibadan. Participation was voluntary and signed informed consent was obtained from all participants.

Results

A total of 510 students participated; 255 from each school, with a mean age of 15.0 ± 1.2 years. The majority of the study participants in CSS Ojoo (140; 54.7%) and in CSS Apata (151; 59.4%) were males. Most of the students lived with their parents in CSS Ojoo (230; 90.2%) and in CSS Apata (218; 85.5%), and were from a monogamous home and in CSS Ojoo and CSS Apata (220 [86.3%] and 210 [82.4%], respectively; Table I).

Table II shows the reported availability of substances in the environment. Alcohol and tobacco were the most available, followed by solvents, marijuana, sedatives, hallucinogens, cocaine, ephedrine, and heroin, in that order. There were no differences in the pattern of reported availability of the different agents between the two schools ($p > 0.05$).

The prevalence of reported substance use among participants is shown in Table III. In CSS Ojoo, 42.7% of the students reported a lifetime use of any substance compared to 45.1% of the students in CSS Apata. The proportions of current users were 14.1% and 16.5% in the two schools, respectively. Among all the sociodemographic characteristics assessed, only gender showed a significant association with reported lifetime and current uses of substances in both schools. Specifically, males (69; 49.6%) were more likely to have ever used any substance than females (40; 34.5%) in CSS Ojoo ($p = 0.036$). Similarly, in CSS Apata, more males (80; 52.3%) reported ever use of any substance as compared to females (35; 34.3%; $p = 0.034$).

The prevalence of lifetime use of specific substances as reported is shown in Table IV. Alcohol (33.3%), solvents (16.9%), tobacco (12.2%), and marijuana (3.9%) were reported in CSS Ojoo, while in CSS Apata, prevalences of alcohol (34.5%), solvents (17.6%), tobacco (10.6%), and marijuana (3.1%) were reported. There was no statistical significant difference in the pattern observed between the two schools ($p > 0.05$). However, in addition to gender, age was shown to be related with the lifetime use of tobacco ($p = 0.02$) and solvents ($p = 0.002$) in the schools, although age differences existed. The use of tobacco was more common among those in the 10-14 year age group (14.7%) compared to those in the 15-19 year age group (4.7%), while the use of solvents was more common among those in the 15-19 year age group (21.0%) compared to those in the 10-14 age group (10.1%).

The mean age of first use of any substance by those who reported a lifetime use of substances was 12.1 ± 2.3

years. They were introduced to substance use by close associates, such as family members (52; 23.2%), friends (45; 20.1%), neighbours (16; 7.1%), casual acquaintances (16; 7.1%), and fellow students (3; 1.3%). The places where students found it convenient to use substances included the home (103; 45%), social events (16; 7.1%), anywhere (12; 5.4%), a friend's home (9; 4.0%), hidden places (8; 3.6%), school (3; 1.3%), and public places (3; 1.3%; Table V).

Table 1: Socio-Demographic Characteristics of Respondents by School

Characteristics	Category	CSS Ojoo n=255(%)	CSS Apata n=255(%)	Total n = 510(%)	p-value
Age	10-14	90(35.3)	73(28.6)	163(32.0)	0.360
	15-19	165(64.7)	182(71.4)	347(68.0)	
Gender	Male	140(54.7)	151(59.4)	291(57.1)	0.282
	Female	115(45.3)	104(40.6)	219(42.9)	
Class*	SS1	106(41.5)	110(43.1)	216(42.4)	0.416
	SS2	81(31.8)	88(34.5)	169(33.1)	
	SS3	68(26.7)	57(22.4)	125(24.5)	
Type of parental marriage	Monogamous	220(86.3)	210(82.4)	430(84.3)	0.273
	Polygamous	35(13.7)	45(17.6)	80(15.7)	
Living with parents	Yes	230(90.2)	218(85.5)	448(87.8)	0.136
	No	25(9.8)	37(14.5)	62(12.2)	

*SS (Senior School) Class 1, 2, and 3

Table II: Reported Substance Availability

Substances	CSS Ojoo n=255(%)	CSS Apata n=255(%)	Total n=510 (%)	p value
Alcohol	203(79.6)	208(80.9)	411(80.6)	0.876
Tobacco	203(79.6)	204(81.0)	407(79.8)	0.832
Solvents	174(68.0)	166(65.1)	340(66.7)	0.652
Marijuana	40(15.6)	39(15.4)	79(15.5)	0.775
Sedatives	27(10.7)	24(9.9)	51(10.0)	0.713
Hallucinogens	23(9.0)	21(8.4)	44(8.6)	0.673
Cocaine	19(7.4)	17(6.7)	36(7.0)	0.569
Ephedrine	19(7.4)	16(6.5)	35(6.9)	0.575
Heroin	11(4.3)	13(5.2)	24(4.7)	0.392

Table III: Prevalence of Lifetime Use and Current Use of any Substance by Respondents

Substance use	CSS Ojoo n=255(%)	CSS Apata n=255(%)	Total n=510 (%)	P value
Lifetime use	109(42.7)	115(45.1)	224(43.9)	0.656
Current use	36(14.1)	42(16.5)	78(15.3)	0.538

Table IV: Prevalence of Lifetime Use of Specific Substances by Respondents

Substances	CSS Ojoo n=255(%)	CSS Apata n=255(%)	Total n=510 (%)	P value
Alcohol	85(33.3)	88(34.5)	173(33.9)	0.659
Solvents	43(16.9)	45(17.6)	88(17.3)	0.643
Tobacco	31(12.2)	27(10.6)	58(11.4)	0.668
Marijuana	10(3.9)	8(3.1)	18(3.5)	0.662
Ephedrine	8(3.1)	9(3.5)	17(3.3)	0.662
Sedatives	7(2.7)	6(2.4)	13(2.5)	0.835
Hallucinogens	3(1.2)	6(2.4)	9(1.8)	0.285
Cocaine	3(1.2)	5(2.0)	8(1.6)	0.566
Heroin	0(0)	2(0.8)	2(0.4)	0.151

Table V: Places of Substance Use by Respondents

Places where substances were reportedly used	Frequency n = 224	%
Home	103	46.0
School	3	1.3
Friends homes	9	4.0
Social events	16	7.1
Hidden places	8	3.6
Public places	3	1.3
Anywhere	12	5.4

Discussion

One of the worst aspects of the current drug problem is that it primarily affects those who are most vulnerable, such as the youth¹¹. The transition from adolescence to young adulthood is a crucial period in which experimentation with illicit drugs may begin. This supports the need to assess the drug use pattern among adolescents attending two military schools in Ibadan. The findings suggested that a similar pattern existed in the distribution of age, gender, class, ethnicity, religion, and other social and demographic characteristics of the participants from the two schools. Hence, reliable comparisons could be made on the pattern of drug use and other variables of interest between the two schools.

Prevalence rates of 42.7% for CSS Ojoo and 45.1% for CSS Apata were found for the lifetime use of any substance. This finding, though slightly higher, is comparable with a prevalence of 39.9% reported in a survey on the use of any drug among secondary school students in Australia¹². The pattern of lifetime use of specific substances showed that alcohol was the substance with the highest proportion of users among the respondents, with a prevalence of 33.3% in CSS Ojoo and 34.5% in CSS Apata. Alcohol and tobacco are socially-accepted substances^{13, 14}. In another study carried out in 2002, a prevalence of 13.4% was reported for current use of alcohol amongst secondary school students in rural and urban communities in southwestern Nigeria, while a study in Kenya reported a current use of 15% in the urban and 14% in the rural schools¹⁵. As in these studies, the present study found a male preponderance in the use of alcohol. The reported use of alcohol in this study is consistent with the report of an earlier study in which alcohol was observed to be the most commonly used substance and described, together with tobacco, as gateway substances¹³. Availability, as reported by respondents in this study, as well as social acceptance and social permissiveness in the environment, as reported by several authors, may favour the high prevalence of alcohol use^{13, 14, 16}.

The prevalence rates of 16.7% for lifetime use of solvents among the respondents in CSS Ojoo and 17.6% in CSS Apata were unprecedented. A much lower rate of 4.0% was reported previously in Ilorin¹⁴. This observed increase may have introduced new dimensions to the issue of substance use by adolescents. First, it involves solvents, which are mainly petrol, kerosene, glue, shoe polish, and sprays. Some of these substances are household materials and are readily available, relatively cheap, and are routinely used on a daily basis. Furthermore, they are not under local or international control from the point of view of "hard drugs." Judging from the present trend, it is likely that any increase in the level of awareness among adolescents on the stimulant effects of solvents will lead to a phenomenal increase in their use. Preventive health educational programmes targeted at young people, particularly adolescents, are therefore imperative.

Except for tobacco and solvents, in which a pattern existed, there was no clear pattern in the two schools with respect to the relationship between substance use and age. However, higher proportions of users of substances were observed among older adolescents than in the younger age group. This finding is supported by findings of several studies¹⁷⁻²¹, in which substance use was reported to increase with age. The implication of this finding is suggestive of the need for a sustained preventive intervention throughout the period of adolescence.

The mean age of initiation into substance use was 12.1±2.3 years among lifetime users from the two schools. This is in agreement with what has been reported by other authors¹⁴ who reported similar years of initiation into substance use in primary school years by those reporting use among secondary school students in Ilorin. In another study, initiation at less than 10 years of age was reported in urban China and above 10 years of age in rural China²². Other studies have reported between 10 and 13

years of age as the age of initiation of substance use^{20, 21}. The finding supports the view that preventive intervention programmes might be beneficial during the pre-adolescent years²²⁻²⁸.

There was a preponderance of males among the respondents with respect to almost all substances investigated. This finding is consistent with similar findings in earlier studies^{14, 15, 18, 21, 29}, in which higher proportions of substance users occurred among males than among females. Studies have also shown that a higher proportion of male than female adolescents are involved in risky behaviours that are associated with substance use.

Finally, the highest proportion of substance users was introduced by their family members. This finding is in agreement with the finding reported in a study on tobacco smoking among secondary school students in the Mainland Local Government Area of Lagos State, Nigeria³⁰. This is also consistent with those of several authors^{13, 31, 32} who reported the strong influence of peer pressure, and parental and sibling exposure on adolescent substance use. This factor is relevant in the planning of adolescent health education interventions, noting the relevance of peer training and peer educators. It also provides an opportunity to encourage parents to adopt more responsible attitudes toward substance use in home, as suggested by other authors²².

In conclusion, the limitation imposed by the study design is recognized. The study relied completely on self-reports by the participants. This may have given room for response bias by the participants in the study; however, the findings gave some useful insight into the magnitude and pattern of substance use among senior students of the two command secondary schools in Ibadan. The information provided a useful baseline in which subsequent interventions could be based and evaluated.

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