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The Prevalence and Factors affecting Psychoactive Substance Use among Undergraduate Students in University of Uyo, Nigeria

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ABSTRACT

Background: Psychoactive substance use is a proliferating public health and social problem leading to negative multi-dimensional impact especially among young people. This study was done to determine the prevalence and factors predisposing to psychoactive substance use among undergraduates in University of Uyo, Nigeria.

Methodology: This was a cross-sectional descriptive study carried out among 350 undergraduates in the University of Uyo, Nigeria between March and July 2016. Data collection was done using a self-administered structured questionnaire and was analyzed using the Statistical Package for the Social Sciences, version 23.

Results: The mean age of the respondents was 21.57±1.96 years. The prevalence of psychoactive substance use was 27.5% and was more in females (37.7%) than males (18.2%). Peer group influence (94.3%), Stress (70.5%), Curiosity (58.7%), were the most common factors perceived to predispose to psychoactive substance use among undergraduate students. Among the 89 substance users in the study, alcohol 89 (100.0%), codeine 71 (79.8%), tramadol 66(74.2%) and cigarette 37(41.6%) were the most commonly used substances. The commonest source of substances was from friends 76 (85.4%), while the commonest reasons for substance use were to boost confidence, 82 (92.1%) and to read for exams, 76 (85.4%). A statistically significant association existed between substance use and age, sex, intra family relationship, family member substance use, peer group use of psychoactive substance and academic performance ($p<0.05$).

Conclusion: Psychoactive substance use was high among the study group. A multi-dimensional approach is needed in curbing substance use among undergraduate students both at the educational institution and family levels.

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INTRODUCTION

Psychoactive substance (PAS) use among undergraduate students has become an increasing public health and social problem in many countries.[1] It is the non-medical self-administration of a substance to produce mood changing effects, intoxication, or altered self-image, despite the knowledge of its potential side effects.[2] It can also be described as the use of any substance to the point where it interferes with an individual's health, social

or economic adjustment.[3] One major consequence of substance use is dependence and addiction[4].

Substance use is a major public health problem all over the world.[5] In 2011, it was estimated that 167 to 315 million people aged 15 to 64 years globally had used an illicit substance in the preceding year[6] The estimated global burden of alcohol and illicit drugs use is 5.4% while tobacco is 3.7%.[7] A national survey of substance use conducted among 10,609 Nigerians aged 15-64 years in the six geopolitical zones of the country recorded a lifetime prevalence of 39% for alcohol, 6.6% for cannabis and 12.2% for cigarettes.[8] In Nigeria, the most common types of used substances as cited by several researchers include stimulants and amphetamines such as caffeine, tobacco, nicotine, ephedrine; hallucinogens such as marijuana and narcotics such as heroine and codeine. Others include alcohol and sedatives.[9, 10] These substances are largely used due to the belief that they relieve stress and anxiety, and some of them induce sleep, ease tension, cause relaxation or help users to forget their problems. The consequences of their abuse could result in physical dependence.[9]

The problem of substance use among university students in Nigeria is a recognized phenomenon.[11] A study among university students in Ilorin reported a current use of one or more psychoactive substance of 40.4% with a lifetime prevalence of 78%.[12]

The negative impacts of psychoactive substances on students are far reaching, and diverse. These include disruption of interpersonal relationships especially within the family, criminal behaviour, academic failure, vocational failure and a lack of commensurate achievement.[13] Psychoactive substance use is a leading cause of violence among individuals and a major cause of preventable mortality and morbidity.[14-16] It has been implicated in majority of cases of vehicle fatalities worldwide, with attendant effects on physical deformity, health, social functions, loss of property, loss of jobs, loss of self-esteem and loss of lives.[15, 17]

Students who use substances show lowered commitment to education, declining grades, increased potential for dropout and high truancy rate. Suicides, homicides, and accidental injuries have all been linked to drug use among students.[15] Also, high prevalence of depression, development lag, apathy, withdrawal, drainage of family financial and emotional resources have all been reported among substance using students.[18] The frequent use of substances has resulted in an increase in the number of delinquent acts such as rape, robbery, cultism, violent disorders and vandalism among Nigerian youths.[19] University undergraduates attempt to abuse drugs for a myriad of reasons including: combating real or imagined failure, boosting self-confidence, or an escape route from bad unexpected circumstances. They are particularly at risk because they have unchecked freedom, some have too much money, poor role models, peer pressure, and irrational ambition.[20]

Several factors contribute to substance use among youths. Top on the list is peer group influence. Students' behaviors seem to be heavily tied to the peer culture. If some members of a peer group use substances, there is a high probability that an individual in that group will experiment and ultimately become a user. In a study by Palfrey,[21] it was reported that peer group pressures appeared to influence student marijuana use.

Curiosity and desire for adventure may also contribute to experimentation with drugs. Because these substances give a feeling of excitement, such students find it difficult to do without them. Also, some students use

substances when they are under stress or feel frustrated. They then tend to resort to smoking and drinking to gain a momentary escape from reality.[22]

Social consequences of substance use include truancy, absenteeism, cultism, poor study skills and poor memory with many of them resorting to cheating during examinations.[23, 24] Substance use gives students a false sense of security and self-confidence. As a result, these youths take to different types of crime, including kidnapping, rape and armed robbery.[25] Researchers have shown that many cult members use substance.[26, 27]

Studies have reported that students get their supplies of substances from peers, relatives, local grocery shops and chemists, thereby having easy access to these substances with the resultant negative effects.[28,29] Certain measures have been put in place to curb PAS use in Nigeria. The National Drug Law Enforcement Agency (NDLEA) has the responsibility of controlling illicit drug cultivation, abuse, possession, manufacturing, production, and trafficking.[30] Under the NDLEA, there is a Drug Demand Reduction Unit, which is responsible for effective sensitization of the public on the dangers inherent in drug trafficking and abuse. From 2010-2015, NDLEA noted an average of 1000 schools covered yearly nationwide for preventive education activities.[31]

Many studies carried out in Nigeria on this subject are mainly hospital and community based with focus largely on secondary school students.[16, 20, 24, 32, 33] Studies in Nigeria with a focus on undergraduate students are relatively few. The intention of this study, therefore, was to determine the prevalence and factors affecting psychoactive substance use among undergraduate students in University of Uyo with the aim of identifying areas to focus on in mitigating the problem among undergraduates.

METHODOLOGY

Study Area

The study was carried out in University of Uyo, Uyo, Akwa Ibom State, Nigeria. Uyo has an estimated population of 413,381 based on the 2015 projected population.[34] The University of Uyo has a student population of 17,401 regular students and over 1000 academic staff. There are 13 faculties which operate from three campuses, all situated within Uyo metropolis. Within the campuses, there are 4 mini markets, 5 university operated restaurants and over 15 private cafeterias. Sale of psychoactive substances is prohibited within the campuses. There are 13 hostels within the three campuses which accommodate about 40% of the student population. The rest of the students stay in private accommodations outside the campuses. Several shops exist in the university neighborhood where different types of PAS can be purchased by the students.[35]

Study Design

This was a descriptive cross-sectional study carried out among undergraduates in University of Uyo, Akwa Ibom State.

Study Population

The study was carried out among undergraduates in University of Uyo, Akwa Ibom State, Nigeria.

Inclusion criteria

The participants were registered undergraduate students of University of Uyo with a valid identity.

Exclusion criteria

The undergraduate students who were unable to provide informed consent were excluded from the study.

Sample Size Determination

The formula for descriptive study was used, with a prevalence of 0.25 being the prevalence of substance use among undergraduate students in a similar study,[32] with a z of 1.96 and a sampling error set at 5%. The calculated minimum sample size was 288. To compensate for improperly filled questionnaires, a non-response rate of 10% (29) was added to the minimum sample size. This brought the total minimum sample size to 317. However, a total of 350 undergraduates were selected for the study.

Sampling Method

Sampling was done using the proportionate stratified random sampling technique. The first step was to find the total number of students in each faculty and calculate the proportion of students to be included from each stratum (faculty). The required number of students in each faculty was subsequently selected by simple random sampling method.

Data Collection Tools and Methods

Data collection was done using a structured 51 item pre-tested self-administered questionnaire. Information obtained from the questionnaire included socio-demographic and academic information of the respondents, awareness of psychoactive substance use among undergraduates, perceived factors affecting substance use and substance use among respondents. The data was collected by 4 members of the research team in the daytime when the respondents were most likely to be at school. The instrument was pre-tested on 38 undergraduates in the school of continuing education to ensure that the contents were adequately understood.

Data Analysis

The questionnaires were carefully examined for correctness and completeness, coded and analyzed using the Statistical Package for Social Sciences (SPSS) version 23. The data generated from the study was presented in the form of tables and analyzed as descriptive frequencies, percentages and cross tabulations. The level of significance was set at 5%.

Ethical Considerations

Ethical approval for this study was obtained from the Akwa Ibom State Research Ethics Committee in the Ministry of Health, Akwa Ibom State. Written informed consent was gotten from each respondent before the questionnaire was administered. The respondents were assured of the confidentiality of their information and its use for research purposes only.

RESULTS

Out of 350 questionnaires which were administered, 324 were retrieved, giving a response rate of 92%. The mean age of the respondents was 21.57±1.96 years. The minimum age reported was 18 years, while the maximum was 25 years. One hundred and seventy respondents (52.5%) were males, while 47.5% were females. One hundred and seventy-one respondents were in 300 level (52.8%). Majority, 82.4% reported satisfactory intra-family relationship. The Cumulative Grade Point Average (CGPA) for 148 (45.7%) of the students was 2.5-3.49. (Table 1) Majority of the respondents, 305 (94.1%) had heard about substance use, with the commonest source of information being from the media 286 (93.8%). The substances that respondents were aware of included nicotine (87.2%), cocaine (76.1%), alcohol (75.4%), cigarette (74.7%) and marijuana (74.7%). (Table 2) Peer group influence (94.3%), stress (70.5%), increased leisure money (58.7%) and curiosity (58.7%) were the commonest factors perceived to predispose to substance use among undergraduate students. (Table 3)

Table 1: Socio-Demographic and Academic Characteristics of Respondents

Variable	Frequency (n=324)	Percent
Age (years)		
18-21	170	52.5
22-25	154	47.5
Mean age = 21.57±1.96		
Gender		
Male	170	52.5
Female	154	47.5
Level		
100	19	5.9
200	58	17.9
300	171	52.7
400	57	17.6
500	19	5.9
Intra-family relationship		
Satisfactory	267	82.4
Unsatisfactory	57	17.6
CGPA		
0.00-1.49	0	0.0
1.50-2.49	37	11.4
2.50-3.49	148	45.7
3.50-4.49	136	42.0
4.50-5.00	3	0.9

TABLE 2: Respondents' Awareness of Psychoactive Substance Use

Variable	Frequency	Percent
Ever heard about substance use (n = 324)		
Yes	305	94.1
No	19	5.9
*Source of information (n = 305)		
Media	286	93.8
Family	77	25.2
Friends	57	18.7
Hospital/Medical personnel	38	12.4
*Awareness of substances (n = 305)		
Nicotine	266	87.2
Cocaine	232	76.1
Alcohol	230	75.4
Cigarette	228	74.7
Marijuana	228	74.7
Tobacco	209	68.5
Codeine	140	45.9
Heroine	138	45.2
Steroids	101	33.1
Tramadol	97	31.8
Morphine	45	14.7

*Multiple response

Table 3: Factors perceived to predispose to Drug Use among Students

Variable	Frequency (n=324)	Percent
Awareness of factors that increase risk of substance use		
No	43	13.3
Yes	281	86.7
*Perceived predisposing factors to substance use (n=281)		
Peer group influence	265	94.3
Stress	198	70.5
Curiosity	165	58.7
Increase leisure money	165	58.7
Parental substance use	133	47.3
Mass media promotion	49	17.4
Type of personality	47	16.7

*Multiple responses

Eighty-nine (27.5%) of the respondents admitted to using psychoactive substances. Among the substance users, alcohol (100.0%), codeine (79.8%), tramadol (74.2%) and cigarette (41.6%) were the most commonly used substances. The commonest source of substances was from friends 76 (85.4%), while the commonest reasons for substance use were to boost confidence, 82 (92.1%) and to read for exams, 76 (85.4%). (Table 4)

A statistically significant association existed between substance use and age, sex, intra family relationship, family member substance use, peer group use of psychoactive substance and academic performance ($p<0.05$). Substance use was significantly higher among respondents aged 18-21 years (36.5%) compared to those aged 22-25 years (17.5%). Also, a higher proportion of females (37%) used substances compared males, (18.2%). A higher proportion of those with unsatisfactory intra family relationships, 49.1% used substances compared to 22.8% use among those who had satisfactory relationships (Table 5)

Table 4: Substance Use among Respondents

Variable	Frequency	Percent
Use of substances (n = 324)		
Yes	89	27.5
No	235	72.5
*Substances used (n = 89)		
Alcohol	89	100.0
Codeine	71	79.8
Tramadol	66	74.2
Cigarette	37	41.6
Marijuana	28	31.5
Steroids	10	11.2
*Source of substances used (n = 89)		
Friends	76	85.4
Parents	19	21.3
Bar	16	18.0
*Reasons for substance use (n=89)		
To boost confidence	82	92.1
To study for examinations	76	85.4
To cure depression	71	79.8
To deal with family problems	57	64.0
To cure low self esteem	38	42.7

*Multiple responses

Table 5: Association between Substance Use and Selected Variables

Variable	Substance Use		X^2	p- value
	Yes (n=89) n (%)	No (n=235) n (%)		
Age				
18-21	62 (36.5)	108 (63.5)	22.19	0.00*
22-25	27 (17.5)	127 (82.5)		
Gender				
Male	31 (18.2)	139 (81.7)	15.3	0.00*
Female	58 (37.7)	96 (62.3)		
Intra-family relationship				
Satisfactory	61 (22.8)	206 (77.2)	5.17	0.00*
Non-satisfactory	28 (49.1)	29 (50.9)		
Family Member Use of substances				
Yes	56 (32.6)	89 (58.2)	43.79	0.02*
No	33 (21.7)	119 (78.3)		
Peer Group Use of substance				
Yes	62 (23.4)	203 (77.6)	12.12	0.00*
No	27 (45.8)	32 (54.2)		
CGPA				
1.50-2.49	4 (10.8)	33 (89.1)	16.19	0.00*
2.50-3.49	33 (22.3)	115 (77.7)		
3.50-4.49	52 (38.2)	84 (61.8)		
4.50-5.0	0 (0.0)	3 (100.0)		

*Statistically significant

DISCUSSION

This study was done to assess the prevalence of and factors affecting psychoactive substance use among undergraduates in University of Uyo. The mean age of the respondents was 21.57±1.96 years, with a range of 18-25 years. This is similar to the age distribution among undergraduates in a study in Romania, with a mean age of 21.09± 1.48 years and a range of 18-25 years.[1] Most undergraduates are young people who are still malleable, which makes them more prone to lifestyle modifications than older adults. The gender distribution in the present study was near equal with a male to female ratio of 1.1 to 1. More than nine out of every ten students were aware of substance use among undergraduate students. The media was reported to be the highest source of information for almost nine out of every ten students. Similar findings were reported in a study in Lagos with 86.5% awareness and media being the most common source of information. [20]

The prevalence of psychoactive substance use among undergraduates in the present study was 27.5%. This was higher than the prevalence of 14.1%, 20.1% and 21.8% reported in similar studies among undergraduate students in Ethiopia, Addis Ababa and Sao Paolo respectively.[36-38] The latter study reported an increased prevalence of psychoactive substance use among students in the age group 20-24 years.[38] In the present study, psychoactive substance use was higher among those aged 18-21 years. The prevalence of 78% reported among students in south western Nigeria was however much higher than findings of the present study. [39]

Several studies have reported a higher prevalence of substance use among male undergraduate students. A study among Romanian undergraduates, reported a prevalence of 14.2% among males compared to

6.8% among females[1], while a study in India documented a prevalence of 30% in males compared to 11.67% in females.[40] However, a study in Brazil reported no significant difference between gender in the use of alcohol, tobacco and illicit drugs.[41]In the present study, substance use was significantly higher in females (37.7%) compared to males (18.2%). The implication of this is that females are also actively involved in psychoactive substance use, therefore they should be targeted for rehabilitation. Issues related to girls' consumption may be different from boys' and must be duly considered. Possible reasons for the higher prevalence of psychoactive substance use among female students relative to males in the present study may be linked to the fact that more female students reside in the university hostels compared to males; hence there is an increased chance of succumbing to peer influence than the males. A similar study in Calabar, Nigeria reported that students residing on campus used more substances than those residing off campus.[42]

Among the substance users in the present study, alcohol was used by all respondents, while about four out of every ten of them smoked a cigarette and close to a tenth used marijuana. A similar finding was reported in other studies.[36, 43]

Several factors tend to predispose to substance use. In the present study, peer group influence was perceived by more than nine out of every ten respondents as the most common factor predisposing to psychoactive substance use, while up to seven in ten respondents mentioned stress and more than half thought that curiosity and increased leisure money were also predisposing factors. A similar study reported that peer group influence and curiosity were perceived as responsible for substance use by 23% and 27% of the respondents, respectively[33] while another study by Adeyemi Idowu[32] reported 50.77% for peer group influence. In the present study, 85.4% reported that their source of drugs was friends. Youths tend to imitate their friends as this gives them a sense of belonging. A study reported that 67% of males with experience of marijuana had friends who had taken drugs, compared with just over 25% of males who had no experience of marijuana despite having marijuana using friends (x^2=30.94, p< 0.001). This association was equally significant among females, as 74% of females with marijuana using friends succumbed to the habit, in comparison 21% with similar friends who did not (x^2 = 25.88, p < 0.001).[21] Another study which compared users and non-users of substance identified peer influence, curiosity and a sense of growing up as the main reasons for commencing substance use. The non-users never gave into substance because of personal/family values and awareness of the health impact[44]. Users in the present study reported that the commonest reasons for substance use were to boost confidence, 92.1% and to read for exams, 85.4%. Parental psychoactive substance use was also considered as an important predisposing factor by almost half of the respondents in the present study. This was higher than the 10.77% reported in a study done among students in Ilorin.[32]

The relationship between peer group use of psychoactive substances and use among respondents was statistically significant in the present study. More than two thirds of those using substances in this study had peers also involved in the practice. However, over three quarters of respondents whose peers were using substances did not succumb to the practice. This suggests that the proportion that yielded were quite vulnerable and may have had other predisposing factors coming into play. For instance, almost half of those with unsatisfactory intra family relationships were

using substances. A similar study reported that difficult relationship with parents was associated with tobacco use (OR = 2.725, p = 0.004 for males and OR = 3.699, p < 0.001 for females).[32] In the present study, however, it is worthy of note that about two thirds of those who used substances had satisfactory intra family relationships. This buttresses the fact that several predisposing factors contribute to an individual's use of substances.

There was also a significant association between family member's use of psychoactive substances and use by respondents in the present study, as up to six out of every ten respondents using substance reported use by a family member. Such family members would not be able to effectively counsel the students against the practice. In a similar study in Ethiopia, it was reported that parental use of substances was strongly and positively associated with students' use,[36] while another study in Addis Ababa also showed that there was statistically significant association between family use of substances and use among students.[45]

The availability of leisure money has also been reported to contribute to psychoactive substance use among undergraduates. In the present study, more than half of the respondents opined that leisure money was a predisposing factor for substance use. A study by P.S Parfrey[21] reported that 75% of males (x2=9.28. p < 0.005) and 52% of females (x2= 4.78, p < 0.05) who took marijuana had more leisure money than others who had never taken.

An association has also been reported between academic performance and psychoactive substance use. A study carried out by V. K. Jagnany et al[46] reported a decline in academic performance among undergraduates who used psychoactive substances. Respondents who had failure grade were also more likely to use tobacco and illicit psychoactive substances than those who did not[41]. Similarly, a study by Bahls et al[47] observed that students who had already failed a grade tended to consume more alcohol and other psychoactive substances than those who did not. In the present study, all the students who had the highest cumulative grade point average were not using substances.

CONCLUSION

More than a quarter of the undergraduate students who participated in the study admitted to using psychoactive substances. The perceived factors affecting psychoactive substance use among undergraduates in University of Uyo included peer group influence, curiosity, parental influence and increased leisure money. There was a statistically significant association between psychoactive substance use and age, intra-family relationship, family member psychoactive substance use and peer group use of psychoactive substances. A multidimensional approach is needed in curbing substance use among undergraduate students both at the educational institution and family levels. These include drug education along with lectures, rallies, seminars and film shows on the adverse effects of psychoactive substances, imposing severe sanctions on victimless offenders who are traffickers of illicit drugs and institutional steps taken toward rehabilitating dependants.[41, 48]

Limitations of Study

University of Uyo is just one of the Universities in Akwa Ibom State. Hence, the result of this study is representative of only the students in University of Uyo and not students of other tertiary institutions in Akwa Ibom State. Also, the issue of self-reporting was considered a limitation as the conclusions drawn from this study was dependent on the

information obtained from the respondents which was totally subjective. Another limitation could come from the inability of the respondents to recall the substances they ever used. The inability to use a validity check to ensure that students did not over estimate their substance use may be another limitation. Also, the inability to establish trends and causality using a cross- sectional study, and the possibility of under reporting are also limitations.

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Contributions to Joint Publication

The first author wrote this article using data from a larger study carried out by the other authors under the supervision of the first author.