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Original Research

Pattern of psychoactive substance use among university students in South-Western Nigeria

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Abstract

Psychoactive substance use is a major public health issue globally. Studies worldwide suggest that the prevalence of substance use among undergraduates may be on the rise. This study aimed at determining the prevalence, pattern and associated factors of substance use among students in a university in Southwestern Nigeria. The WHO Student Drug Use questionnaire was used to assess for drug use among final year students, while psychological distress was evaluated with GHQ 12. Lifetime prevalence of any psychoactive substance use was 78%. The prevalence of alcohol, cannabis and inhalant was significantly more in males. The prevalence of alcohol use was significantly lower among students who reported frequent participation in religious activities. There was a significant relationship between tobacco, cannabis use and psychological distress. The prevalence of psychoactive substance is high among university students. There is urgent need for adequate screening, assessment and treatment of substance use disorder amongst these students.

INTRODUCTION

Substance use-related disorders have become matters of global concern because of their negative impact on individual's health, family, social, educational and professional life. It also incurs huge financial and social burden to the society.[1]

Despite worldwide concern and education about psychoactive substance use, many youths have limited awareness of their adverse consequences.[2] Adequate knowledge about the harmful effects of psychoactive substances might deter students from using some substances while tolerating others.[2,3] Studies have shown an increasing trend worldwide in psychoactive substance abuse. A review of literature clearly revealed that there has been a steady increase in the prevalence of drug abuse and its consequences in Nigeria.[4-8] In a survey conducted among adults in primary care setting in 21 of the 36 states in Nigeria, the lifetime prevalence of alcohol use was 58%, tobacco smoking 17% and non-prescription sedative use was 14%.[9] In this country, increased exposure to Western life-style and urbanization may have contributed to the spread of substance use and its consequences, with alcohol and tobacco acting as "gateway drugs" to the use of other substances like cocaine, heroin, amphetamine, inhalant and hallucinogens.[10]

Makanjuola and associates opined that factors like unhealthy family background, high social class, peer group influence, desire to remain awake at night, pressure to succeed in academic work, self-reported poor mental health and easy accessibility of drug may be contributing to the increase in prevalence of drug use.[11] Olley described entry into the university as a "transitional" period in which students move from a restricted life monitored by parents, to a more self-directed life which may be readily influenced by the university

environment.[12] Factors such as poverty, frequent disruptions in academic activities and inadequate learning tools may predispose students in tertiary institutions of learning in Nigeria to maladaptive coping strategies like psychoactive substance use.[13,14]

Social problems associated with substance use include crime, cultism, armed robbery, assault, murder, family disintegration and job losses, gang formation and ritual killing and risky sexual behaviours.[5,9,12]

The United Nations, for statistical purposes defines "youth" as those persons between the ages of 15 and 24 years, without prejudice to other definitions by Member States. Students make up the largest proportion of the youthful population.[15] This is a period of life when peer pressure is mostly felt; there is the quest to experiment new things and to strive for self identity coupled with a desire to be accepted by all. This desire to experiment, to be accepted by peers and to seek solution to problems had been suggested to be partly responsible for the high prevalence of substance abuse in this age group.[16-19]

Since students in higher institutions will eventually graduate to join the work force of a nation, it is important to carry out more researches that focus on the prevalence and pattern of psychoactive substance use and factors associated with drug use among these students. Although, several studies have examined the use of psychoactive substances among students in tertiary institution in Nigeria, [3,12-14] this study examined the relationship between drug use and psychological distress among these students. It also surveyed emerging substances, not included in previous studies.

The fore going is what informs the decision to carry out this study to examine the pattern and psychosocial correlates of psychoactive substance use among undergraduates of Olabisi Onabanjo University in Ogun State, South western Nigeria.

METHODS

This is a descriptive cross-sectional study to assess substance use among full time final year students of Olabisi Olabanjo University, in Ogun State, Southwestern Nigeria between September and October 2011. This university is a state owned and operated institution which admits students from all over Nigeria. Systematic sampling technique was used to select 304 final year students from the 8 faculties in the University (the sampling frame was all final year students in these faculties). Probability proportional to size was used when selecting students from each faculty. Ethical approval was obtained from the Research and Ethics Committee of the Neuropsychiatric Hospital, Aro Abeokuta, Ogun State, while administrative approval was given by the authorities of the Olabisi Onabanjo University. The data were collected through self-administration after gathering the selected students in each faculty in a lecture hall (questionnaires were administered to selected students not available that day on a latter day). The students were assured that that their responses will be kept strictly confidential. No name or identifiable information was included in the questionnaire to maintain anonymity. The students were informed about the objective of the study, and a written informed consent of the responders was obtained. The modified WHO Student Drug Use questionnaire was used to assess drug use among the students.[20] The instrument consists of 37 items, which includes items on respondents socio-demographic characteristics, frequency, age, and educational status at first drug use and item on fictitious drug use to check over reporting. The WHO Student Drug Use questionnaire consists of drugs like mild stimulant defined as psychoactive substance that induces temporary improvement in either physical or mental functions or both, minor tranquilizers such as benzodiazepines that induces calmness, and sedatives- which are drugs that induces sedation by reducing irritability and excitement. This instrument had been used in several studies of drug use among Nigerian students.[21, 22] Religiosity was assessed using a question "how frequently do you participate in religious activities". Psychological health of the students was evaluated using GHQ 12. This instrument had been used previously, and found to be valid and reliable among student in tertiary institutions in Nigeria.[10,23] A score of 3 and above indicates psychological distress among respondents.[24] Statistical Package for Social Sciences (SPSS) Version 16 was used to analyzed the data, value of $p < 0.05$ was considered statistically significant. Fisher exact test was used when items in a cell was less than 5.

RESULTS

Two hundred and sixty four students returned their questionnaires of the 304 students, corresponding to a response rate of 86.8%. The lifetime prevalence of any drug use was 78%.

Alcohol was the most commonly used substance (74.6%), followed by tobacco (22.3%), minor tranquilizer (14.0%), and mild stimulants (8.7%). (Table 1)

Table 1. Prevalence of Psychoactive Substance Use by Gender

Drugs (n=145)	Male (n=119)	%	Female	%	X^2	p value
Tobacco						
Lifetime	40	33.6	19	13.1	15.8	0.000
Previous year	40	33.6	18	12.4	17.1	0.000
Current use	28	23.5	6	4.1	22.2	0.000
Alcohol						
Lifetime	101	84.9	96	66.2	2.03	0.000
Previous year	101	84.9	96	66.2	2.03	0.000
Current use	86	72.3	68	46.9	8.43	0.000
Cannabis						
Lifetime	17	14.3	3	2.1		0.003*
Previous year	17	14.3	3	2.1		0.003
Current use	11	9.2	0	0.0		0.045
Cocaine						
Lifetime	1	0.8	0	0.0		0.451*
Previous year	1	0.8	0	0.0		0.451
Current use	1	0.8	0	0.0		0.451
Mild stimulants						
Lifetime	9	7.6	14	9.7	0.36	0.549
Previous year	9	7.6	14	9.7	0.36	0.549
Current use	5	4.2	6	4.1	0.41	0.564
Tranquilizer						
Lifetime	14	11.8	23	15.9	0.91	0.340
Previous year	14	11.8	22	15.2	0.64	0.422
Current use	4	3.4	10	6.9	4.01	0.253
Inhalant						
Lifetime	6	5.0	1	0.7		0.029*
Previous year	6	5.0	1	0.7		0.029
Current use	5	4.2	0	0.0		0.045
Other Opiate						
Lifetime	11	9.2	11	7.6	0.23	0.628
Previous year	11	9.2	11	7.6	0.23	0.628
Current use	8	6.7	8	5.8	5.81	0.121

*FET= Fisher Exact Test

About 84% of the male and 66.2% of female respondents reported lifetime use of any psychoactive substances, while 72.3% of males and 46.9% of females reported current drug use. Lifetime (X^2=15.8, p=0.000), previous year (X^2 = 17.1, p= 0.000) and current use of tobacco (X^2= 22.2, p= 0.000) was significantly higher among male respondents. Significantly higher proportion of males than females were lifetime (X^2=2.03, p=0.001), previous year (X^2=2.03, p=0.001) and current users of alcohol (X^2=8.43,p=0.001), lifetime (X^2=13.9, p=0.001), previous year (X^2=13.9, p=0.001) and current users of cannabis (X^2=19.9, p=0.001) and lifetime (X^2= 4.79, p=0.029), previous year (X2=4.79, p= 0.029) and current user of inhalants (X^2= 6.21, p= 0.045). Lifetime use of cocaine, hallucinogen, sedative and heroin was only reported among males. (Table I)

Most of the drugs were first used between ages 15 and 18 years. Initial drug use was relatively uncommon below age 11, although substantial proportions of respondents had used alcohol and tobacco before their 15th birthday. None of the students had used cannabis, cocaine, hallucinogen, minor tranquilizers and other opiate prior to their 11th birthday. (Table II).

The mean age of the students was 25.7years (s.d±1.9), with age range 21- 31years. There is a preponderance of females among the respondents with 145(54.9%) being females. Christianity was the predominant religion (78.0%), while 46.2% reported frequent participation in religious activities. About 40% of the students were from various states in Nigeria. Over 80% of the students reported that their parents were still married. Over half of the respondents' parents completed tertiary education. (Table III)

The mean GHQ score among respondents was 2.74 (s.d ±1.70). About 35% had a GHQ score of 3 and above, indicating psychological distress. Psychological

distress was significantly associated with lifetime (X^2= 10.9.p= 0.001), previous year (X^2= 9.79, p= 0.002) and current use prevalence of tobacco (X^2= 0.18, p= 0.005), lifetime (X^2=4.03, p=0.044), and previous year prevalence of cannabis use (X^2=4.03, p= 0.044).(Table IV)

Table 2. Age at First Drug Use by Respondents

Drug	age at first drug use (years) n(%)				
	10 or less	11 -14	15 – 18	19 – 22	>23
Tobacco n=57	1(1.80)	24(42.1)	13(22.3)	15(26.3)	4(7.0)
Alcohol n=197	16(8.1)	80(40.6)	36(18.6)	38(19.3)	27(13.7)
Cannabis n=20	-	-	7(35.0)	13(65.0)	-
Cocaine n=1	-	-	-	-	1(100)
Mild stimulant n=23	-	1(4.4)	4(17.4)	11(47.8)	7(30.4)
Inhalant n=7	-	1(14.3)	1(14.3)	5(71.4)	-
Tranquilizer n=36	-	-	10(27.8)	18(50.0)	8(22.2)
Other Opiate n=22	-	-	2(9.1)	14(63.6)	6(27.3)

Table 3. Socio-demographic characteristics of Respondents

Characteristics	Frequency n (264)	%
Age, years; mean (sd)	**25.7(1.9)**	
Age range		
21 – 25 years	113	42.8
26 – 30 years	150	56.8
>30years	1	0.4
Gender		
Male	119	45.1
Female	145	54.9
State of Origin		
Ogun	160	60.6
Others	104	39.4
Type of Religion		
Christianity	206	78.0
Islam	53	20.0
Others	5	2.0
Religious participation		
Frequently	122	46.2
Rarely/Never	142	53.8
Monthly Pocket money		
< $40	30	11.4
$40 – 125	212	80.3
> $125	22	8.3
Parents' Educational Status		
Father		
No formal education	4	1.5
Primary education	31	11.7
Secondary education	79	30.0
Tertiary education	150	56.8
Mother		
No formal education	6	2.3
Primary education	26	9.8
Secondary education	96	36.4
Tertiary education	136	51.5

Table 4. GHQ Score and Respondents' Drug Use

GHQ Score	n=264					
Mean Score	2.74 (s.d 1.70)					
0 – 2 (%)	173(65.5)					
3 – 12	91(34.5)					
GHQ Score	**ALCOHOL USE n (%)**					
	Lifetime use	**Previous year**	**Current use**	**X^2**	**df**	**p-value**
0 – 2	123(46.6)	123(46.6)	96(36.4)	2.49	2	0.470
3 – 12	74(28.0)	74(28.0)	58(22.0)			
			TOBACCO USE			
0 – 2	28(10.6)	28(10.6)	14(5.3)	0.18	2	0.005
3 – 12	31(11.7)	30(11.4)	20(7.6)			
			CANNABIS USE			
0 – 2	9(3.4)	9(3.4.)	5(1.9)	4.03	2	0.044
3 – 12	11(4.2)	11(4.2)	6(2.3)			
			MILD STIMULANTS			
0 – 2	15(5.7)	15(5.7)	7(2.7)	1.44	2	0.694
3 – 12	8(3.0)	8(3.0)	4(1.5)			
			TRANQUILIZER			
0 – 2	20(7.6)	20(7.6)	6(2.3)	2.69	2	0.101
3 – 12	17(6.4)	16(6.1)	8(3.1)			
			OTHER OPIATES			
0 – 2	12(4.5)	12(4.5)	5(1.5)	6.03	2	0.110
3 – 12	10(3.8)	10(3.8)	6(2.5)			

DISCUSSION

In this study, the lifetime prevalence of any drug use was 78%. Researches on substance abuse among undergraduates of higher institutions of learning in Nigeria have shown some interesting findings which are similar to the findings in this study.[25] Onofa used the modified Student Drug Use questionnaire to evaluate drug use among 1233 students of tertiary institutions and found a lifetime prevalence of 89.7% for any drug.[22] This is similar to another study in the South-western part of Nigeria with a lifetime prevalence of 88%.[26] Yunusa and associates found a lifetime prevalence of any drug use among university students in North-western Nigeria was 52.6%,[27] while Tawasu reported 23.7% in North-eastern part of the country. These differences may be due to the religious disposition in the various part of the country.[28] Northern Nigeria is made up predominantly of Muslims, and Islamic dominant societies have an unfavourable disposition to alcohol use, as there is a religious injunction which forbade its use.

Similar lifetime prevalence of substance use has been reported in studies worldwide. A survey on drug abuse involving 90 University of the North undergraduates in South Africa, was conducted in 2008 using a 123-item substance-use questionnaire developed by World Health Organization. The researchers noted a lifetime prevalence of 79% of male and 26% of female alcohol abuse, 49% of male and 5% of female for cigarette abuse, and 27% and 2% of male and female for cannabis abuse respectively.[29] Researchers examined the prevalence and pattern of psychoactive substance use among undergraduates in West Indies using a modified version of the WHO Student Drug Use questionnaire. The results indicated that 94% of the respondents had used psychoactive substances before. Alcohol was found to be the commonest substance of abuse (73%).[30] Lopez and Gutrierrez conducted drug use survey among undergraduates selected randomly from The University of Spain; 1010 students were involved in the survey, and the results revealed that 91% of the students had used alcohol while 17% had used cannabis.[31]

Alcohol was the most prevalent psychoactive substance used by these students. This finding of alcohol being the most commonly used drug conforms to the national pattern [9] and agrees with studies among student populations both in Nigeria [22,26-28] and abroad.[31,32] This perhaps reflects the easy availability of this drug in many parts of the world except areas where it is prohibited on religious grounds. It may also be explained that alcohol is generally not considered a drug and its use is socially acceptable in many places.

Tobacco was the second most commonly used drug among respondents (22.3%). These figures are comparable with those reported by Ihezue [33] and Onofa [22] but much lower than that of Akinhanmi[26]. This may be due to increased awareness of the dangers of cigarette smoking provided through the activities of the media and various organizations. With slogans such as "smokers are liable to die young" and "cigarette smoking is dangerous to your health", the general public may be more convinced to stay off tobacco.

This study confirmed the previous findings of other studies in Nigeria that drug use was a predominantly male activity.[10,17,18,22,26,27] The use of alcohol and cigarette by Nigerian women is still not tolerated by society but accepted as part of the social lives of men. The use of cannabis was also significantly higher among males in this study. These differences suggest that some aspects of culturally prescribed gender role may have a protective effect against drug use behaviours for both males and females.[27]

Majority of the students started using alcohol and tobacco before their 15th birthday (while in the secondary school). This is in keeping with the high level of substance use among secondary school students as reported in various sentinel studies carried out in this country. This means that any drug abuse preventive measures need to start much earlier in the student's academic lives to achieve desired objectives. Currently in Nigeria, formal policies on drug abuse are not available in the school curriculum. The situation on ground is still unfortunate as reported by Adelekan and Ogunlesi's study of secondary school teachers, where 60% of them were not exposed to any form of drug education and 70% were not offering drug education to their students.[34] There is need for a formal policy of including drug education as part of the health promotion drive in primary, secondary and tertiary schools in Nigeria. That a large percentage of these students started using alcohol and tobacco first before progressing to other drugs also support the facts that these drugs are "gateway drugs" for other drugs like heroin, cocaine, tranquilizers, sedatives and amphetamines. The finding that drug use was rare before age 10 years shows that drug use prevention strategies should be targeted towards primary school pupils.

In this study, 54.9% of the students were females. This is contrary to many studies that have reported a preponderance of males in Nigerian institutions of higher learning.[22,26,27,33] This may follow the dramatic reversal taking place in universities all over the world. Frenette and Zeman [35] reported that in 1991, females constituted 51% of university students in Canada, and in 2001, 58% of all undergraduates were females. They surmised that very little is known about gender divide in university participation. Collin noted that women are dominating tertiary institutions across Australia, with over 60% of all university students being females. A recent report by The American Council of Education observed that women represented 57% of enrolment in American colleges since at least 2000. The report cited several reasons for female preponderance in tertiary institutions; women tend to have higher grades, men tends to drop out in disproportionate numbers, female enrolment higher among blacks, Hispanics, low income students and older students.[36]

The mean age of the respondents was 25.7(sd±1.9) years. This finding is higher than the mean age obtained by Onofa[22] in a sample of students in three tertiary institutions in Ogun state (23.95 ± 2.24SD) and also among Ilorin undergraduate students (23.5 ± 3.75SD years) by Makanjuola.[11] This difference is largely due to the fact that respondents in this study were final year students who have advanced significantly in their academic programmes in the university.

Most of the students were Christians. The predominance of Christians among these respondents is in keeping with previous research conducted within the same town [26] and the same state.[22] While the North embraces Islam considerably, Christianity is prevalent in the South-west, the location of this study. The degree of religious participation is also worthy of note, with almost half of the students reported getting involved in religious activities often or regularly.

Several studies have reported lower prevalence of psychoactive substance use among undergraduates who participates regularly in religious activities.[11,22,27] This finding was also replicated in this study. Luk and associates found that religiosity was protective against alcohol use, alcohol problems and marijuana use among a group of students.[37] Possible ways religiosity may moderate psychoactive substance use include promoting and establishing moral order, providing opportunities to acquire learned proficiencies, and providing social and organizational ties.

In this study, a significant association was found between lifetime and previous year use of tobacco and cannabis and psychological distress among these students. This is in keeping with the findings of Scott et al that cannabis is commonly used as a stress coping strategy. While many students may be able to use cannabis without consequences, there appears to

be a subset of them who experience greater life stress and who may be more likely to use it for stress-coping purposes [38]. It is however impossible to indicate direction of causality between psychological distress and psychoactive substance use on account of the cross-sectional nature of this study.

The American Lung Association explained that University students reported that they often use smoking as a means of controlling stress and depression, and may smoke to signal to their friends or classmates when they are distressed or unhappy.[39].

IMPLICATIONS FOR BEHAVIOURAL HEALTH

Substance use disorders have enormous implication for behavioural health. Psychoactive substance use can affect personal, occupational, family and social functioning adversely.

Substance abuse among undergraduates may lead to declining grades, increased likelihood of dropping out of school and absenteeism from school. Cognitive and behavioural consequences experienced by these students may interfere with their performance in school and present a challenge to learning.[40] For instance; cannabis use can heighten sensory perception, impaired short term memory, judgement, coordination and balance. On the long term, cannabis use may be a causal factor in developing schizophreniform disorders (in individual with pre-existing vulnerability); and is associated with anxiety and depression.[41]

Physical disabilities and diseases may result from substance use among university students. Injuries from falls, road traffic accidents, transmission of hepatitis, human immunodeficiency virus (HIV), through sharing of unsterile needles and poor judgement and impulse control leading to high risk sexual behaviours. There is also increased risk of suicide and homicide among students involved in drug use. [41]

Within the family, students who use substances can drain the families' financial and emotional resources. These can lead to crises within the family and deeply affect parents and siblings.[42]

Substance use among undergraduates accrues a high social and economic cost to the society. This may be from the financial loss and trauma suffered by their victims, increased burden of these students who cannot support themselves and the medical treatment for such students.

Psychoactive substance use is also associated with violent crimes, gang formation, drug trafficking, prostitution and homicidal behaviours.[42]

Based on the foregoing, it is imperative to evaluate pattern of substance use among undergraduates in South-western Nigeria. While some students may be experimenting with these substances, others may have developed substance use disorders. Although drug education and counselling may suffice for the former, the latter will require more intense intervention such as screening and treatment. This study has brought to the fore the need to set up school health policies and programmes targeted towards counselling, screening and treatment for students with substance use disorders. The provision of a more adaptive ways of relieving stress may also curtail the use of psychoactive substances by these students.

This study was conducted in only one institution of higher learning in Nigeria and among final year students. Thus the findings may not be generalizable to students population in other parts of the country.

CONFLICT OF INTEREST:

None

REFERENCES

1. Sadock, B. J., Sadock, V. A. Kaplan and Sadock's Synopsis of Psychiatry, Behavioural Sciences/ Clinical Psychiatry. 10th edition. Lippincott Williams & Wilkins, Philadelphia. 2007.
2. Palo, S. K., Sahani N. C., Tripathy, R. M. Epidemiology of Substance Abuse among Professional College Students of Berhampur, India. Journal of Community Medicine, 2008; 4(1): 112-123.
3. Akindutire A, Adegboyega J: Psychoactive substance consumption and awareness of health effects among students of tertiary institution in Ekiti state Nigeria, Journal of Emerging trends on Educational Research and Policy studies, 2012 3(3): 257 – 262.
4. Makanjuola, J. D. The Aro Drug Addiction Research and Treatment Centre. British Journal of Addiction, 1986; 81: 809-814.
5. Odejide, A. O. Pattern of psychotropic drug use: A survey of civil servants in Ibadan Nigeria. Proceedings of the 3rd International Congress on Alcoholism and Drug Dependence. Tangiers, Morocco, An ICAA Publication, 1982; 33-34
6. Adelekan, M. L., Abiodun, O. A., Obayan, A. O., Oni, G., Ogunremi, O. O. (1992): Prevalence and Pattern of Substance use among undergraduates in a Nigerian University. Drug and Alcohol Dependence, 29: 255-261.
7. Omoluabi, P. F. A review of the incidence of non

prescription psychoactive substance use and misuse in Nigeria. The International Journal of the Addictions, 1995; 30(4): 445-458.

8. Alagbe, H. Dangers of Drug Abuse Among Youth. Health Substance Abuse Experience, 2004; 29(2): 120-22
9. Gureje O, Degenhardt L, Olley B, Uwakwe R, Udofia O, Wakil A, Adeyemi O, Bohnert K, Anthony C. A descriptive epidemiology of substance use and substance use disorders in Nigeria during the early 21st century. Drug and Alcohol Dependence 2008, 91: 1 – 9.
10. Abiodun, O. A., Adelekan, M. L., Obayan, A. O., Oni, G., Ogunremi, O. O. Psychosocial correlates of alcohol, tobacco, and cannabis use among Secondary School Students in Ilorin, Nigeria. West African Journal of Medicine, 1994; 13(4): 213-217
11. Makanjuola, A. B., Daramola, O. D., Obembe, A. O. Psychoactive substance use among medical students in a Nigeria university. World Psychiatry, 2007; 6(2): 112-114.
12. Olley B. Child sexual abuse, harmful alcohol use and age as determinants of sexual risk behaviours among freshmen in a Nigerian University. African Journal of Reproductive Health 2008, 12(2): 76 – 87.
13. Adewuya A. Prevalence of Major Depressive disorders in Nigerian University students with alcohol related problems. General Hospital Psychiatry. 2008, 28: 169 – 73
14. Abayomi O, Onifade P, Adelufosi O, Akinhanmi A. Psychosocial correlates of hazardous alcohol use among undergraduates in Southwestern Nigeria. General Hospital Psychiatry. 2012 6: 25 – 30.
15. United Nations General Assembly 1981. Youth at the United Nations. www.un.org/youth..accessed 15.10.2010.
16. Odejide, A. O., Sanda, A. O. Observation on drug abuse in Western Nigeria. African Journal of Psychiatry, 1970; 2(2): 303-309.
17. Anumonye, A. Drug use among young people in Lagos, Nigeria. Bulletin on Narcotics, 1980; 32(4): 39-45.
18. Nevadomsky, J. Pattern of self reported drug use among secondary school students in Bendel state, Nigeria. Bulletin on Narcotics, 1981; 1(2): 34-8
19. Oshodi, O. Y., Aina, O. F., Onajole, A. T. Substance use among secondary school students in an urban setting in Nigeria: prevalence and associated factors. African Journal of Psychiatry, 2010; 13: 52-57.
20. Smart, R. G., Hughes, P. H., Johnson L. D. A methodology for student drug use surveys. WHO offset publication No. 50, WHO Geneva 1980.
21. Abdul W, Syed A, Ehsanullah S, Naila B, Saman I, Mohammed N. Well- being of medical students and their awareness of substance misuse: A cross-sectional survey in Pakistan. Annals of General Psychiatry. 2009; 8: 8 – 26.
22. Onofa L. Patterns of Drug abuse among students of tertiary institutions in Abeokuta, Ogun State Nigeria. Dissertation submitted to the West African College of Physicians. 2007
23. Gureje, O., Obikoya, O. The validity of two versions of the GHQ in the WHO study of mental illness in primary care setting. Psychological Medicine, 1990; 27: 191-197.
24. Omokhodion, F. O., Gureje, O. Psychosocial problems of clinical students in the University of Ibadan Medical School. Afr. J. Med. Med. Sci. 2003; 32(1): 55-8.
25. Brener, N., John, O., Billy, O., William M, Assessment of Factors Affecting the Validity of self – reported Health-Risk Behaviour Among Adolescents: Evidence from Scientific Literature. Journal of Adolescent Health. 2003; 33:436-457.
26. Akinhanmi, O. A. Drug Abuse among Medical Students in a State University in Nigeria. A Dissertation submitted to West African College of Physicians, Faculty of Psychiatry. 1996.
27. Yunusa M. Obembe A, Madawaki A, Asogwa F. A survey of psychostimulant use among a University Students in Northwestern Nigeria. 2011; 9(3):40- 45
28. Tawasu S. Prevalence of Drug Abuse among medical students of the university of Maiduguri. Dissertation submitted to the Natonal Postgraguate Medical College of Nigeria. 8.
29. Peltzer K., Pharswana, N. Substance use among South African students: A quantitative and qualitative study. Alcohol and Drug abuse module, 2008; 7(3): 112-22
30. Orisatoki, O.R., Jayaray, A. D., Oguntibeju, O. O. Substance Abuse among students at a Caribbean University. Medical Technology SA, 2008; 22(1): 223-240.
31. Lopex A. M, Gutrierrez R. J (1986): Extent and Pattern of Drug Use by students at a Spanish University. Bulletin on Narcotics 41(1-2): 117-119. 2005
32. Johnston, L. D., O'Malley P. M., Bachman J. M., Schulenberg J. E. Monitoring the Future National Results on Adolescent Drug Use: Overview of key findings. National Institute on Drug Abuse. 2007; 3: 567 – 575.
33. Ihezue, H. A. Drug Abuse among medical students at a Nigerian University; Prevalence and Pattern of Use. Journal of the National Medical Association, 1988; 80(1): 81- 85.
34. Adelekan, M. L., Ogunlesi, O. A., Akindele, M. O. Secondary school teachers' knowledge and views about drug abuse in Ogun State. Nigerian Journal of Drug Education, 1990; 20(2): 163-174.
35. Frenette, M., Zeman, K Why are Most University

Students Women? Analytical studies Branch Paper Series 2007; 303(4): 223-234).

36. Collin, S. More Women than Men at Universities. The National Age 2001; 23:212-216
37. Luk J, Emery R, Karyadi K, King K. Religiosity and substance use among Asian-American College Students: Moderated effects of race and acculturation. Drug and Alcohol Dependence 2013; 130 (1 – 3): 142 -9.
38. Scott, M., Hyman, P., Rajita Sinha, P. Stress-Related Factors in Cannabis Use and Misuse: Implications for Prevention and Treatment. J Subst Abuse Treat, 2008; 36(4): 400–413..
39. American Lung Association. Big Tobacco on Campus: Ending the Addiction. 2008 (www.lungusa.org.accessed 8/12/2012)
40. Bereau of Justice Statistics. Adolescent Drug use. 1992… (www.ojp.gov accessed 20/06/2013
41. National Institute on Drug Abuse. Health Effects of Cannabis 2012. (www.nida.gov.....accessed 20/06/2013)
42. Gropper M. Juvenile Delinquency and Substance abuse JAIBG Bulletin 1995; 92(10):4328-31..