Research Paper   Open Access

Knowledge, Attitude, Perception, and Practice of Drug Abuse Among Undergraduate University Students in Enugu, Southeast Nigeria

Jaclyn I. Odinka[1], Sabina I. Urama[2], Ujunwa C. Nduanya[3], Rosemary C. Muomah[4], Kennedy U. Amadi[4], Appolos C. Ndukuba[4], Michael U. Osika[5], Paul C. Odinka[4]

[1]*Social Sciences Unit, School of General Studies, University of Nigeria, Nsukka.*
[2]*Counseling Unit, University of Calabar Teaching Hospital, Calabar*
[3]*Department of Psychological Medicine, University of Nigeria Teaching Hospital Ituku-Ozalla, Enugu State Nigeria.*
[4]*Department of Psychological Medicine, College of Medicine, University of Nigeria Enugu Campus.*
[5]*Department of Psychiatry, Rivers State University of Science and Technology, Port Harcourt.*

Corresponding author: Paul C. Odinka (paul.odinka@unn.edu.ng)

ABSTRACT: Substance abuse is a critical problem among adolescents and young adults in Southeast Nigeria, yet empirical evidence on substance use is limited. This study explored the knowledge, attitude, perceptions, and practice of drug abuse among undergraduate of a university in Southeast Nigeria to help develop a preventive health education program for students in tertiary institutions in Southeast Nigeria. A cross-sectional study that was designed within the Knowledge, Attitudes, and Practices (KAP) model was used to collect information from 235 students who participated in a mental health awareness program. The age ranged from 17-32 years, with a mean of 22.98 and SD ±3.14. The males constituted 61% of the respondents. Median age for the initiation and the regular use of drugs were 17 and 19 years. Almost all the students, 99% of them had been taught about drug abuse. However, 35% of them did not see drug abuse as a major problem in the society. Up to 37% of them believed that suffering health damage or medical problem due to drug abuse is not at all likely. The majority of the respondents (56%) believed that using drugs makes people cool, and 8% of the participants had experienced withdrawal symptoms. The majority of them knew that drug abuse could lead to mental illness (75%), violence, or aggressive outbursts under the influence of drugs (71%). The findings will help in developing a framework for effective advocacy, policy formulation, and preventive health education program on substance abuse for students.

KEYWORD: Knowledge, Attitude, Perception, Practice, Drug Abuse, Undergraduate University Students, Enugu Southeast Nigeria

I.   INTRODUCTION

Alcohol and drug abuse is a chronically-relapsing disorder characterized by the compulsive use of addictive substances despite adverse consequences to the individual and the society (Koob and Volkow, 2010). It has become a global health and social problem (WHO Expert Committee on Drug Dependence, 1987), and is now regarded as a major public health challenge (Ali et al., 2011). It is increasingly becoming a worldwide trend in lifestyle that is prevalent in rich and poor countries alike (Ali et al., 2011), with conditions and problems that vary locally (WHO Expert Committee on Drug Dependence, 1987). The trend becomes more worrisome as more new psychoactive substances are being synthesized, and more are available than ever, with increasing reports of associated harm and fatalities (World Drug Report 2018).

The young people, those between the ages of 10 and 24 years (WHO, 2012), constitute the majority of the people that gain admission into the university in Southeast Nigeria as undergraduates. Adolescents are those between the ages of 10 and 19 years (WHO, 2012). Adolescence is one of the most rapid phases of human development period that is characterized by suboptimal decisions and actions that are associated with an increased incidence of unintentional injuries, violence, substance abuse, unintended pregnancy, and sexually transmitted diseases (Eaton et al. 2006). The changes in adolescence have health consequences not only in adolescence but also over the life-course (WHO, 2019).

The biological maturity comes before psychosocial maturity, and this provides the substrate for the exploration and experimentation that takes place during adolescence (WHO, 2019). Younger adolescents may be particularly vulnerable when their capacities are still developing, and they are beginning to move outside the confines of their families. The characteristics of both the individual and the environment influence the changes taking place during adolescence (WHO, 2019).

Broadly, the drug is a substance that can have a physiological effect when it is introduced into the body. For this work, we consider a 'drug' to mean a psychoactive substance or psychotropic drug. A psychoactive or psychotropic drug is any chemical substance, natural or synthetic, that changes a person's mental state.

A psychoactive or psychotropic drug is any drug capable of affecting the mind, emotions, and behavior. Psychoactive substances can change brain function and result in alterations in perception, mood, consciousness, cognition, or behavior (World Health Organization, 2004; Gould, 2010). Psychoactive substances include alcohol, opium, cocaine, amphetamines, nicotine, caffeine, mescaline, steroids, cannabis (marijuana), inhalants, and psilocybin. They can be obtained from natural sources, while others are synthetic or designer drugs (Ali et al., 2011). These substances may be used medically, recreationally, or to purposefully improve performance or alter one's consciousness (World Drug Report 2018). Also, some of these substances that have addictive potential in vulnerable individuals like alcohol and nicotine are legal and do not require prescriptions, while some others are legally available by prescription (Ali et al., 2011). Globally, study suggests that more than 15.3 million persons are suffering from drug use disorders and that about 3.3 million deaths are recorded each year due to the harmful use of alcohol alone (World Health Organization (2014).

The global estimate of psychoactive substances use in 2008 was 155 to 250 million people, and cannabis was the most commonly abused substance (World Health Organization, 2014). In those countries that were measured, the social cost of illicit substance use was about 2% of Gross Domestic Product (World Health Organization 2012).
The harmful use of psychoactive substances has multiple direct effects on young people and adolescents. The harmful effects of the use of psychoactive substances on young people and adolescents include: The likelihood of impairments in personal, occupational, family and social functions, physical health problems, suicidal tendencies, mental illness, and even lower life expectancy is increased by substance use in adolescence (World Drug Report 2018). There are also the increased odds of engaging in risky sexual behavior, sexual violence, criminal tendencies, and personality disorders (Idowu et al., 2018). In the most serious cases, the harmful use of drugs can lead to a cycle in which damaged socioeconomic standing and ability to develop relationships feed substance use (World Drug Report 2018).

The initiation of the use of these substances induces euphoria, reward, and a state of well-being that can lead to physical and psychological dependences. Withdrawal syndrome occurs when the individual attempts to stop the use of addictive substances, and this leads to the cycle of dependency (Ali et al., 2011). Worldwide, drug abuse is of concern to public health professionals and social scientists because of the easy spread of this epidemic among young people (WHO, 2019).

The unique nature and importance of adolescence make urgent explicit and specific attention in health policy and programs. Young people may be particularly vulnerable when their capacities for critical thinking and judgment are still developing, and they are beginning to move outside the confines of their families (Eaton et al. 2006). Furthermore, this occurs as some of the restriction naturally imposed by most home environment is modified and probably reduced partially. Adolescence is one of the most rapid phases of human development period that is characterized by strive for self-identity, the desire to experiment, impulsive decisions and actions that are associated with an increased incidence of unintentional injuries, violence, substance abuse, unintended pregnancy and sexually transmitted diseases (Eaton et al. 2006). It is also the period when parental guidance seems not to be enough, and the effect of peers is most felt. The desire to explore, experiment, and seek ideal solutions to problems is partly responsible for the high prevalence of drug abuse reported among young people (Oshodi et al., 2010).

Substance abuse is a critical problem among adolescents and young adults in Southeast Nigeria, yet empirical evidence on substance use is limited. Therefore, to forestall the escalation of the problem of drug abuse in the future and proactively push towards reversing the negative trend, there is increasingly a need to address psychoactive substance use among young adults in Southeast Nigeria using empirical evidence. Knowledge-based studies are the building blocks of addiction research, while studying the factors that are associated with drug use initiation and prevention contributes to the development of drug education programs (Lennox and Cecchini, 2008).

The study assessed the knowledge, attitude, perception, and practice of drug abuse among undergraduate students of a university in Enugu, Southeast Nigeria, who participated in an awareness program that was organized to mark World Mental Health Day in October 2019. The aim was to use the findings of the study as a guide to developing a preventive health education program on drug abuse for students in tertiary institutions in Southeast Nigeria. Therefore, the objectives of the study were:

1. To assess the knowledge of the students regarding substance abuse.
2. To assess the attitude of the students to substance abuse
3. To assess the perceptions of the students regarding substance abuse
4. To assess the practice of students regarding substance abuse
5. To assess their socio-demographic variables and substance abuse

This cross-sectional study was carried out at the University of Nigeria, Enugu Campus, Enugu State, south-east Nigeria. University of Nigeria Enugu Campus (UNEC) is one of the four campuses of the University of Nigeria Nsukka (UNN). The main campus is located in the town of Nsukka, in the hilly Savannah, and provides its inhabitants with a pleasant and healthy atmosphere, about 80km northwards from Enugu, Enugu State. The University of Nigeria was founded in 1955 and opened for admission in 1960 as the first fully-fledged autonomous indigenous university, and was patterned after the American university system.

University of Nigeria Enugu Campus (UNEC) was previously known as the College of Arts, Science, and Technology. It became a campus to the University of Nigeria in 1961. UNEC is located inside Enugu Town, behind Independence Layout, and has four faculties: Business Administration, Environmental Studies, Law, Basic Medical Sciences, and Health Sciences. The next campus is at Ituku-Ozalla, where the College of Medicine with a Provost and its affiliated hospital, the University of Nigeria Teaching Hospital are located, 25km southwards from Enugu. The faculties of Medical Sciences and Dentistry are located at the Ituku-Ozalla campus. Administratively, the faculties of Medical Sciences and Dentistry, Basic Medical Sciences, and Health Sciences are under the College of Medicine. The fourth campus is the Institute of Nigerian Languages located in the former Federal School of Arts and Science, in Aba, Abia State. The bulk of students admitted into UNN come from South-eastern Nigeria, one of the six geopolitical zones or divisions in which Nigeria's 36 federating units or states are grouped. It is primarily inhabited by people of the Igbo ethnic group, who speak Igbo, and are predominantly Christian religion adherents.

Recruitment procedures and Ethical Issues

The Ethical Review Board of College of Medicine, University of Nigeria Ituku-Ozalla Campus, gave its approval. Participants were recruited among students that came to the Main Hall of the University of Nigeria Enugu Campus for an awareness program on mental health that was organized for the students. The nature and purpose of the study were explained to the students. Participants were assured that their responses would be kept confidential and that all the results would be presented as an aggregate. With a randomization table, a random sampling method was used as a guide to approaching the attendees in the hall. Voluntary consent was obtained before the questionnaires were distributed to the students, who were recruited for the study for completion.

Inclusion and exclusion criteria

The students who came to participate in an awareness program on mental health that was organized for the students of the University of Nigeria Enugu Campus. Those who were not students were excluded.

Instruments
Socio-demographic questionnaire

A socio-demographic questionnaire was used to collect socio-demographic data such as age, gender, marital status, living situation year in the university, etcetera.

Knowledge, Attitudes, Perceptions and Practice Questionnaire

A self-administered pencil-and-paper questionnaire was used to collect data on knowledge, attitudes, perceptions, and practices regarding substance abuse. The study was designed within the Knowledge, Attitudes, and Practices (KAP) model to inform program development and interventions that are contextually and culturally appropriate (Medicins du Monde, 2011; WHO, 2008). The KAP model seeks to understand what is known, believed, and done in a specific population about a particular problem topic in order to inform program development and interventions that are contextually and culturally appropriate (Medicins du Monde, 2011; WHO, 2008).

Data-collection procedures

It was a cross-sectional study. A self-administered questionnaire was used to collect information from the students who gave their consent to participate in the study. A total of 235 students who participated in an awareness program on mental health were approached to participate in the study; however, 16 declined consent, while 19 returned poorly completed questionnaires.

Data analysis

All data were first keyed into Epidata software version 3.1 (The EpiData Association, Odense, Denmark), for data entry, documentation and storage, and was later transported to SPSS version 20.0 (IBM, USA) for analysis. Frequency distribution was used to assess the distribution of the students according to the

variables of interest: socio-demographic, knowledge, attitudes, perceptions, and practice. Pearson's and Spearman's correlations were use to test for associations, Mann-Whitney U test was used to compare gender and ages for the initiation and the regular use of drugs because Shapiro-Wilk's test showed that ages for the initiation and the regular use of drugs were non-parametric. A chi-square test was used to compare gender and drug abuse practices among the students. All statistical tests were performed at a significant level of .05.

II.   RESULTS

The participants who correctly completed the questionnaires were 200 in number, 122 (61%) males and 78 (39%) females. Table 1 showed that the age range was from 17 to 32 years, with the mean and SD of 22.98, +3.143. The participants were mostly unmarried (94%), and 74% live in Campus hostels.

The average fund for monthly expenditure was in the range of 10,000 to 75,000 Naira.
68% accessed 20,000 to 25, 000 Naira. 39% were in 3rd year while 19% and 17% were in the fourth and second years respectively.

Table 1:
Distribution of the Students According to Age, Gender, Marital Status, Birth Order, Living situation, year in the university

	Frequency	Percent	Mean	SD	Median	Mode
Age Range at Contact (years)						
17 - 19	24	12	22.98	±3.14	23.00	20
20 – 24	118	59.0				
25 – 29	48	24.0				
30 – 32	10	5.0				
Gender						
Male	112	61.0				
Female	78	39.0				
Marital Status						
Single	92	96.0				
Married	8	4.0				
Funds for Monthly Expenditure in Naira						
10,000 - 15,000	30	15.0				
16,000 - 25000	136	68.0				
26,000 - 35,000	44	22.0				
36,000 - 45,000	22	11.0				
46, 000 - 50,000	10	5.0				
51,000 - 75,000	2	1.0				
Living situation						
Off-campus	26	13.0				
Campus hostel	148	74.0				
With family members in town	26	13.0				
Year in the university						
1st	10	5.0				
2nd	34	17.0				
3rd	78	39.0				
4th	38	19.0				
5th	26	13.0				
6th - 8th	14	7.0				

Knowledge

The frequency distribution of the knowledge domain variables showed that almost all the students, 99% of them had been taught about drug abuse with their primary source of learning being the Family (45%), School (30%), media (11%), Religious body (5%), % and Community (1%). A reasonable number of the students, 88% of them, knew that it is difficult to stop using drugs by oneself when addiction sets in; however, 35% of them did not see drug abuse as a major problem in the society.

All the participants considered themselves knowledgeable about drug use, 56% Strongly agree, 44% Agree. Also, 81% agreed that they were aware of the harm due to drug use, while 17% of the participants disagreed that using drug is bad for a person's health. Also, 17% of the participants disagreed that substance use impairs a person's judgment, as well as 17% disagreeing that drugs/substances not prescribed (drugs/substances not prescribed) can be addictive.

Attitude

All the participants care about themselves and their health. The majority of the respondents (56%) believed that using drugs makes people cool, while 54% believed that drugs make one feel powerful. Furthermore, 20% of them liked how they feel when they take drugs.

Perception of Vulnerability or Likelihood of Developing Some Possible Problems

On the students perception of vulnerability or likelihood of developing some possible problems as a result of drug abuse, Table 2 showed that majority of them (65%) believed that getting arrested due to drug abuse is not at all likely, while 37% of them believed that suffering health damage or medical problem due to drug abuse is not at all likely. Also, 11% of them believed that drug abuse is not at all likely to cause academic difficulties or problems with cognition, while only 29% of them believed otherwise.

According to 15% of respondents, drug abuse is not at all likely lead to strained relationships with friends and family, but 36% of them believed that it could lead to a change in personality and behavior, while 8% thought otherwise. Up to 39% of the respondents believed that drug abuse could lead to one developing a mental condition or worsening an existing one, while 12% of them thought otherwise. Majority of them, 53% believed that drug abuse could definitely make one to engage in illegal activities to obtain drugs, as 52% of them also believed that drug abuse could definitely lead to financial difficulties. According to 42%, young people can definitely get into fights or aggressive outbursts under the influence of drugs, while 13% thought otherwise.

Table 2: **Students Perception of Vulnerability or Likelihood of developing some possible problems as a result of drug abuse**								
Ratings (0 = not at all likely to 6 = definitely)								
Variable		0	1	2	3	4	5	6
Getting Arrested								
	Frequency	130	12	2	4	8	10	34
	%	65	6	1	2	4	5	17
Suffering Health damage or Medical problems								
	Frequency	24	22	16	20	24	20	74
	%	12	11	8	10	12	10	37
Having Academic difficulties/ Problems with cognition								
	Frequency	22	14	30	6	38	32	58
	%	11	7	15	3	19	16	29
Having strained relationships with friends/family								
	Frequency	30	8	16	28	38	20	60
	%	15	4	8	14	19	10	30
Financial difficulties								
	Frequency	14	10	10	14	28	20	104
	%	7	5	5	7	14	10	52
Developing a Mental condition or worsening an								

existing one									
	Frequency	24	6	10	10	42	30	78
	%	12	3	5	5	21	15	39
Having a change in personality and behavior								
	Frequency	16	12	16	12	42	30	72
	%	8	6	8	6	21	15	36
Can get into fights/ or aggressive outbursts under the influence of drugs								
	Frequency	26	8	12	12	30	28	84
	%	13	4	6	6	15	14	42
Engaging in Illegal activities in order to obtain drugs								
	Frequency	32	4	2	2	30	24	106
	%	16	2	1	1	15	12	53

As in Table 3, 65% of the students had used alcohol (beer, wine, liquor) in their lifetime, and 72% of them were introduced into drugs by friends. The majority of them (30%) started using drugs due to Peer pressure.

Table 3: **Distribution of Students According to Drugs Ever Used, Who Introduced them to Drug And Reasons For Drug Use.**			
Variables		N	%
Drugs Ever Used			
	Never used drug	34	17%
	Smoking Tobacco (Cigarettes, cig)	12	6%
	Alcohol (Beer, Wine, Liquor)	130	65%
	Marijuana or Hashish (Weed, grass)	20	10%
	Heroin, other opiates (smack, ho)	2	1%
	Other drugs	2	1%
Was Introduced to Drug By			
	Never used drug		18
	Friends		72%
	Attending a Party		6%
	Uncle		3%
	Father		1%
Reasons for drug use			
	Never used drug		17%
	To reduce stress and forget about problems.		21%
	Chronic medical pain/condition		9%
	Peer pressure		30%
	Breakdown of families		1%
	Academic challenges		6%
	Street involvement		5%
	Availability and ease of access in the environment		11%

The median age for the initiation and the regular use of drugs were 17 and 19 years, respectively, while 20 years was the modal age for both.
The distribution of age at initiation (Age at first use) of drug use is the same (No difference) across the gender (Null hypothesis was accepted using Mann-Whitney U-Test)
The distribution of age at the regular use of drugs is the same (No difference) across the gender (Null hypothesis was accepted using Mann-Whitney U-Test)

There was no statistically significant association between gender and using drugs other than those required for medical reasons, and 83% of the participants had used drugs other than those required for medical reasons.

There was a statistically significant association between gender and using substances in the last four weeks, ($\chi 2(2) = 8.786$, p = .012). 49% used the substance in the last four weeks.

There was a statistically significant association between gender and loss of control over drug use, ($\chi 2(2) = 10.845$, p = .004). There was a loss of control over drug use in 2% of the students.

There was a statistically significant association between gender and not being able to go through the week without using drugs, ($\chi 2(2) = 7.470$, p = .024). 3% could not go through the week without using drugs.

There was a statistically significant association between gender and the experience of withdrawal symptoms (felt sick) when drugs were stopped, ($\chi 2(2) = 8.468$, p = .014), and 8% of the participants had experienced withdrawal symptoms.

There was no statistically significant correlation between using drugs in the last four weeks, loss of control over drug use, being unable to stay for one week without using drugs, having a history of withdrawal symptoms and the amount of money available for monthly expenditure. Pearson's correlation coefficients showed a mild negative correlation between age and using drug in the last 4 weeks, and a mild positive correlation between age and loss of control over drug use, (r(198) = -.149, p = .035; r(198) = .157, p = .026).

There was no statistically significant correlation between being unable to stay for one week without using drugs, having a history of withdrawal symptoms and age. Also, Spearman's correlation coefficients showed a mild positive correlation between place of abode and using drug in the last 4 weeks, and a mild negative correlation between place of abode and loss of control over drug use, (rs(198) = .171, p = .016; rs(198) = -.151, p = .033).

There was no statistically significant correlation between being unable to stay for one week without using drugs, having a history of withdrawal symptoms and place of abode. There was no statistically significant correlation between using the drug in the last four weeks, loss of control over drug use, unable to stay for one week without using drugs, having a history of withdrawal symptoms and marital status.

Spearman's correlation coefficients showed a moderate negative correlation between year in the university and using drug in the last 4 weeks, and a mild positive correlation between year in the university and loss of control over drug use, (rs(198) = -.353, p < .001; rs(198) = -.143, p = .044). There was no statistically significant correlation between being unable to stay for one week without using drugs, having a history of withdrawal symptoms, and year in the university.

III.   DISCUSSION

This study assessed the knowledge, attitude, perception, and practice of drug abuse among undergraduate students of a university in Enugu, Southeast Nigeria, to help develop a preventive health education program on drug abuse for students in tertiary institutions in Southeast Nigeria. Over 70% of the students fall within the category of young people, who are particularly vulnerable to drug abuse, hence the imperative for this study. Our findings from the study showed that students have a basic understanding of the nature of substance abuse. All the participants considered themselves knowledgeable about drug use, but some of them lack in-depth knowledge of substance abuse. A sizable number disagreed that using drugs is bad for a person's health, and quite a higher number did not see drug abuse as a major problem in the society. The reason may be connected with the quality of the content of the teaching to those proportions of students about drugs and the source. We found that the involvement of the religious organizations in the teaching about drug abuse was abysmally low, and this is not good for the society because of the increasing reports of harm and fatalities associated with drug abuse (World Drug Report 2018). Past studies had suggested that religion seemed to have acted as a protective factor for substance use (Elarabi, et al., 2013).

Despite almost all the students responding that they had been taught the dangers of using drugs, and all the participants considered themselves as being knowledgeable about drug use, a staggering number of them believed that suffering health damage or medical problem due to drug abuse is not at all likely. Previous studies had suggested that perception of harm level affects the tendency to use substances (Lam and Chung, 1998) while also identifying risk denial as a factor that works against risk perception (Devos et al., 1997).

All the participants care about themselves and their health; however, a reasonable number of them liked how they feel when they take drugs, and this could be due to the "high" that they feel when they initially take the drug, which reduces after a while. They might take more of the drug to try and achieve the same "high", and the circle continues (NIDA, 2018). The students need to be educated on the dangers of the pleasure that only come from drug before they get into it.

The majority of the students had used alcohol in their lifetime, and this is well understood since alcohol is a socially accepted drink among people from the Southeast Nigeria, who are predominantly Christians, unlike in the northern part of the country where they are predominantly Muslims. Most commonly, the respondents were introduced into drugs by friends, and this has been reported in a previous study (Embleton et al., 2012). The majority of them started using the drug due to Peer pressure. The role friends and peer pressure play in

initiating and continual substance misuse have been reported in previous studies (Bal et al., 2010; Fernandes and Vaughn, 2008; Morakinyo and Odejide, 2003).

The median age for the initiation and the regular use of drugs were 17 and 19 years, respectively, while 20 years was the modal age for both. These median ages, compared to a Keyan study of street children, which were 11 years for first trying any drugs and 12 years as the median age of commencing to use the drug regularly (Embleton et al., 2012), is revealing. The difference could be because our population was more focused; hence, they were able to gain admission into the university. Furthermore, these focused lifestyles may be due to the restrictions and monitoring of their activities at home, which have been relaxed partially with the admission into the university, and they had to satisfy their curiosity.

There was a loss of control over drug use in 2%, which is one of the criteria for drug dependency, and the rate was higher among one gender, probably the males. There was an experience of withdrawal symptoms (felt sick) when drugs were stopped, another feature of dependency, and 8% of the participants had experienced withdrawal symptoms. Furthermore, the rate was higher among one gender, probably the males too. Pearson's correlation showed that younger people tend to use drugs, but the older one had more problems with controlling their drug use, and this may be because drugs change the brain in ways that make quitting hard, even for those who want to (NIDA, 2008). Addiction is a chronic disease characterized by drug seeking and use that is compulsive, or difficult to control, despite harmful consequences (NIDA, 2008).

There was a direct relationship between the place of abode and using drugs in the last four weeks. However, the place of abode was associated with a lower rate of loss of control over drug use. The majority of the students live the university hostels, and it is possible that the environment did not allow for the free use of the drug in terms of quantity, frequency, and convenience. The use of drugs in the last four weeks moderately decreased as the year of study at the university increased. The reason could be due to the development and maturity of the frontal lobe as the age of the students increased as it counters the pressure from the pleasure center (nucleus accumbens) NIDA, 2008. However, those that have started using drug early and have lost control over the use of drugs may get worse as the age and year in the university increase.

Implications of the Study
The study may have highlighted a greater and urgent need for a preventive health education program on substance abuse for students in tertiary institutions in Southeast Nigeria.
The study added empirical evidence to the body of knowledge that could inform new areas of focus, such as advocacy to religious organizations, to pay more attention to the education of its adherents on the nature of the problems of drug abuse. It will serve as a veritable tool for a preventive health education program on substance abuse for students in tertiary institutions. It will also serve as a veritable tool for effective advocacy to policymakers, for policy formulation and public enlightenment.

Limitations
It focused on students of a university in Enugu who participated in a mental health awareness program that was organized, therefore:
The study sample was selective rather than representative.
It cannot be generalized to the entire country or population of Southeast Nigeria.
A self-report survey, participants may not have revealed or correctly reported about themselves. Social desirability bias could have affected responses to sensitive questions about drug use knowledge, perceptions, attitudes, and practices.
The study was completely cross-sectional, and so, neither direction nor causation can be inferred from the results.

Recommendations
Future studies to be designed to address some of the deficiencies of the present work:
Such as replicating the study in different tertiary institutions within Southeast Nigeria, and this would improve the validity of the work for south-eastern Nigeria.
Establishment of preventive health education clubs in tertiary institutions:
To be used as a useful tool for improving and promoting the physical and psychological well-being of students in tertiary institutions.
To serve as a cost-effective and efficient information dissemination system to students that will focus on the etiological factors and dangers of drug abuse to the individual and the society
Future research that will focus on barriers to a drug-free and healthy lifestyle among students

IV.　　CONCLUSION

The dangers of drug abuse among students are real and need more serious attention and concerted efforts from the governments, communities, public institutions, and non-state actors.

The findings of the current study will help in developing a framework for efficient advocacy, policy formulation, and preventive health education program on substance abuse for students in tertiary institutions in Southeast Nigeria.

Conflict of interest: The authors declare that they have no conflict of interest.

REFERENCES

[1].　Bal, B., Mitra, R., Mallick, A. H., Chakraborti, S., & Sarkar, K. (2010). Nontobacco substance use, sexual abuse, HIV, and sexually transmitted infection among street children in Kolkata, India. Substance Use Misuse, 45(10), 1668–1682.

[2].　Devos, T., Dubois-Arber, F., & Gervasoni, J. P. (1997). Secondary prevention of drug abuse: problems and examples. Therapeutische Umschau. Revue therapeutique, 54(8), 468-472.

[3].　Eaton, D. K., Kann, L., Kinchen, S., Ross, J., Hawkins, J., Harris, W. A., ... & Lim, C. (2006). Youth risk behavior surveillance—United States, 2005. Journal of school health, 76(7), 353-372.

[4].　Elarabi, H., Al Hamedi, F., Salas, S., & Wanigaratne, S. (2013). Rapid analysis of knowledge, attitudes and practices towards substance addiction across different target groups in Abu Dhabi City, United Arab Emirates. International Journal of Prevention and treatment of Substance Use Disorders, 1(1).

[5].　Embleton, L., Ayuku, D., Atwoli, L., Vreeman, R., & Braitstein, P. (2012). Knowledge, attitudes, and substance use practices among street children in Western Kenya. Substance use & misuse, 47(11), 1234-1247.

[6].　F Ali, S., S Onaivi, E., R Dodd, P., L Cadet, J., Schenk, S., J Kuhar, M., & F Koob, G. (2011). Understanding the global problem of drug addiction is a challenge for IDARS scientists. Current neuropharmacology, 9(1), 2-7.

[7].　Falkner, F., & Tanner, J. M. (Eds.). (2012). Human Growth: A Comprehensive Treatise Volume 1 Developmental Biology Prenatal Growth. Springer Science & Business Media.

[8].　Fernandes, G. T.,&Vaughn, M. G. (2008). Brazilian street children: Contextual influences in relation to substance misuse. International Social Work, 51(5), 669–681.

[9].　Gould, T. J. (2010). Addiction and cognition. Addiction science & clinical practice, 5(2), 4.

[10].　Idowu, A., Aremu, A. O., Olumide, A., & Ogunlaja, A. O. (2018). Substance abuse among students in selected secondary schools of an urban community of Oyo-state, South West Nigeria: implication for policy action. African health sciences, 18(3), 776-785.

[11].　Koob, G. F., & Volkow, N. D. (2010). Neurocircuitry of addiction. Neuropsychopharmacology, 35(1), 217.

[12].　Lam TH, Chung SF. Tobacco Advertisements: One of the strongest risk factors for smoking in Hong Kong students. Am J of Prev Med.1998;14(3): 217-23

[13].　Lennox RD, Cecchini MA. The NARCONON drug education curriculum for high school students: a non-randomized, controlled prevention trial. Substance Abuse Treatment Prevention Policy. 2008; 3:8

[14].　Monde, M. d. (2011). Data collection: The KAP survey model. Medicins du Monde.

[15].　Morakinyo, J., & Odejide, A. O. (2003). A community based study of patterns of psychoactive substance use among street children in a local government area of Nigeria. *Drug and alcohol dependence*, 71(2), 109-116.

[16].　NIDA. (2018). Understanding Drug Use and Addiction. Retrieved from https://www.drugabuse.gov/publications/drugfacts/understanding-drug-use-addiction on 2019, November 30.

[17].　Oshodi, O. Y., Aina, O. F., & Onajole, A. T. (2010). Substance use among secondary school students in an urban setting in Nigeria: prevalence and associated factors. African journal of psychiatry, 13(1).

[18].　WHO Expert Committee on Drug Dependence, (1987). Twenty-third Report (Geneva: World Health Organisation). Tech. Rep. Ser., No. 741.

[19].　WHO, (2019). Adolescent development. Maternal, newborn, child and adolescent health. https://www.who.int/maternal_child_adolescent/topics/adolescence/development/en/

[20].　WHO. (2008). Advocacy, communication and social mobilization for TB control: A guide to developing knowledge, attitudes and practices surveys. Geneva, Switzerland: World Health Organization.

[21]. World Drug Report (2018) (United Nations publication, Sales No. E.18.XI.9)

[22]. World Health Organization (2012) Management of substance use. Available on http://www.who.int/substance_abuse/facts/psychoactives/en/

[23]. World Health Organization (2014). Substance Abuse. Available on http://www.who.int/topics/substance_abuse/en/

[24]. World Health Organization. (2004). Neuroscience of psychoactive substance use and dependence. World Health Organization.