Original Article

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Prevalence and Determinants of Substance use among Students attending Tertiary Institutions in Rivers State, Nigeria

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Abstract

BACKGROUND: In order to deal with the social and psychological difficulties that they may encounter during the transition from adolescence to adulthood and the pressure that accompanies acquiring tertiary education, many young people indulge in substance use to cope. Substance use is known to have negative consequences on the social and mental well-being of users, particularly young persons. This study aimed at determining the prevalence and determinants of substance use among students in tertiary institutions in Rivers State, Nigeria.

METHODS: The study was a descriptive cross-sectional study among 873 students. The questionnaire used was TAPS 1 (Tobacco, alcohol, prescription medication and other substances) tool. It was a semi-structured interviewer administered questionnaire. Data was analyzed using SPSS version 25. Univariate and Multivariate logistic regression analyses were used to identify the determinants of substance use at a p-value of < 0.05.

RESULTS: The result showed that 15% of the students had a life time exposure to illegal substances. The determinants of substance use were being a student of a University (AOR=3.2, CI=1.6-6.2), being a male (AOR=12.7, CI=7.2-22.2), paternal education level of secondary or below (AOR=2.1, CI;3-3.5). maternal education level of secondary or below (AOR=2.1, CI;3-3.5) and being from a monogamous family (AOR=1.3 CI;1.9-8.3).

CONCLUSION: A large number of students still indulge in substance use. More efforts are needed to limit the circulation of these substances among students in tertiary institutions.

Keywords:

Substance use, students, tertiary institutions, determinants

Introduction

One of the most troubling and prevalent issues among students in tertiary institutions is the usage of drugs, alcohol, marijuana, cocaine, crack, heroin, methamphetamine, hallucinogens, ecstasy, tobacco, and other local substances that can be ingested, inhaled, injected or otherwise absorbed into the body with possible dependence and other detrimental effects.[1–4] The consequences of substance use are multiple ranging from psycho-medical,[5] socio-economic and physiological.[6] These consequences are often negatively life-changing, affecting individuals, families, communities, and economies. The present narrative is that illegal drug use is ravaging many populations around the world and robbing the youths of a normal life and their natural potentials.[7]

Everywhere in the world, drugs and medication misuse have devastating impact on young people as they are usually involved throughout the supply chain.[8] The interaction of a number of factors at the individual, macro (socioeconomic and physical environment) and micro (family, schools, and peers) levels make young people more susceptible to substance use.[8] Evidence suggest that transition from adolescent to adulthood is a significant risk window for the beginning of substance use.[9–12] This is the period of curiosity, self-discovery, forging own identity. In order to deal with the social and psychological difficulties that usually accompany this transition period, many youngsters turn to substance use.[13–17] Recent social and technological advances such as the social media have also enabled substance use habit among the youth. Globally the prevalence of substance use ranged from 23.3% in Europe[18] to 24.7% among students in South America.[19] A range of 2% to 45% was noted among university students in association of South-east Asian countries[20] with 9% averagely reported in Africa.[21] Across Nigeria, there have been varying reports of prevalence, pattern and determinants of substance use among students. A 2021 report from Maiduguri showed that 14.3% of the students had used illegal drugs.[22] In Imo State, South Eastern Nigeria, 84% of the undergraduates had a lifetime rate of psychoactive substance use according to one report,[23] while among students attending three universities in South Western Nigeria, the prevalence of substance abuse was averagely 46%.[24] In Edo State, South-South Nigeria approximately 47% of the students reported to have taken drugs for non-medical purpose at least once in their life time.[25] A recent report from Rivers State observed that 35% of students indulge in substance use,[26] in another report among students attending University of Port Harcourt, as high as 90% of the students pooled admitted to have attempted substance use at least once.[27] It is therefore imperative to carry out a more recent study on the state of substances use among students attending all tertiary institutions in Rivers State. Several risk factors for the use of psychoactive substances among young people had been identified.[28] Anecdotally, substance use is associated with being male in all populations but one study from Uyo, Nigeria in 2022 reported females to be the greater users among students,[28] more studies reported that being a male student was a risk factor for the use of substances.[29,30] Other risk factors identified are increasing level of study,[30] history of delinquent behavior, troubled adjustment to school, poor family relations,[31] living with a family who is a user, feeling insecure,[32] having friends who are users,[33] and lower level of parental education.[34]

This study aimed to determine the prevalence and determinants of substance use among students attending tertiary institutions in Rivers State.

Materials and Methods

Study Area: The study was conducted among students in all tertiary institutions in Rivers State, Nigeria. Rivers State is located in South-South

Nigeria. The state has many natural resources, especially oil and gas. Hence the state is home to large number people from different geographical locations in Nigeria.[35] There are about ten accredited tertiary institutions in the state.[36] They include Rivers State University, University of Port Harcourt, Ignatius Ajuru University of Education, Federal College of Education, Rivers State College of Health Science and Technology, Ken Saro Wiwa Polytechnic and Captain Elechi Amadi Polytechnique. Other privately owned tertiary institutions in the state are Madonna University, Pamo University of Medical sciences and Hebert Wigwe University.

Study Design: Descriptive cross sectional study design was adopted for this study.

Study Duration: This study was conducted between December 2021 to October 2022.

Study Population: The study was conducted among students who attend tertiary institutions in Rivers State. All students were eligible. However, students who were too ill to respond were excluded

Sampling Technique: A multistage sampling technique was used to select participants in this study. First, University of Port Harcourt, Rivers State University and Captain Elechi Amadi Polytechnique were selected from the list of all the tertiary institutions using a simple random sampling method. The next stage was selection of three facilities from the list of all faculties in the selected institutions. In Uniport College of health science, faculty of management science and faculty of social sciences were selected. In Rivers State University, faculties of science, engineering and management were selected. In Elechi Amadi Polytechnic, schools of finance, science/technology and business/administration. The next stage was random selection of three departments from the faculties and finally the systematic selection of participants from the departments by selecting 1 out of every three students that walks into the department.

Study Instrument: The study instrument comprised of a semi-structured interviewer-administered questionnaire that captured the social-demographic characteristics. The second tool used was TAPS 1 questionnaire (Tobacco, Alcohol, Prescription medication and other Substances). It was used to assess to use of substances. The study was conducted with the help of four research assistants.

Quality Assurance: The research assistants were adequately trained on data collection technique for one week

Data Management: The data were analyzed using Statistical package for Social Science version 25. Summarization was carried out using means and proportions. The prevalence of substance use in the study was defined by the intake of alcohol, use of medications without prescription, use of tobacco products and use of illicit drugs. All the variables were dichotomized and univariate binary logistic regression was used to determine the relationship between variables at 95% C.I., statistically significant variables were subjected to a multivariate binary logistic regression analysis.

Ethical Consideration: The protocol for this study was reviewed and approved by the research ethics committee of University of Port Harcourt, Rivers State(UPH/CEREMAD/REC/MM74/098). A written informed consent was obtained from the research participants after a detailed explanation of the nature of the study and the assurance of the confidentiality of the study.

Results

Table 1: Social Demographic Characteristics of the Respondents

Variable	Frequency n=873(%)
School	
UNIPORT	455(52.1)
RSU	162(18.6)
ELECHI POLY	256(29.3)
Sex	
Male	400(45.8)
Female	473(54.2)
Age group	

Variable	Frequency (%)
<20	77(8.8)
21-25	757(86.7)
26-30	37(4.3)
Over 30	2(0.2)
Mean±SD	*21.9±2.2*
Level of study	
100	279(32.0)
200	149(17.1)
300	313(35.9)
400	95(10.9)
500	19(2.1)
600	18(2.0)
Residence	
On campus	238(27.3)
Off campus	635(72.7)
Parents alive	
None	61(7.0)
Mother only	39(4.5)
Father only	3(0.3)
Both Parents	770(88.2)

The result showed that 400(45.8%) were males. Mean age was 21.9. Also 313(35.9%) of the respondents were in their third year of study, 635(72.7%) resided outside the campus, and 770(88.2%) had both parents alive. (Table 1)

Table 2: Pattern of substance use

Variable	Frequency (%)
Pattern of Tobacco use	
Daily	3(0.3)
At least once weekly	7(0.8)
At least once monthly	20(2.3)
Occasionally	20(2.3)
Never	823(94.3)
Pattern of alcohol use among males n=400	
Daily	10(2.5)
At least once weekly	6(1.5)
At least once monthly	41(10.3)
Occasionally	46(11.5)
Never	297(74.3)
Pattern of alcohol use among females n=473	
Daily	6(1.3)
At least once weekly	2(0.4)
At least once monthly	13(2.7)
Occasionally	34(7.2)
Never	418(88.4)
Pattern of illegal drug use (marijuana, cocaine, crack, heroin, methamphetamine, hallucinogens, ecstasy)	
Daily	3(0.3)
At least once weekly	3(0.3)
At least once monthly	15(1.7)
Occasionally	14(1.6)
Never	838(96.0)
Pattern of medication use without prescription	
Daily	1(0.1)
At least weekly	2(0.2)
At least monthly	13(1.5)
Occasionally	13(1.5)
Never	844(96.7)

Table 2 shows that 20(20.3%) of the respondents use tobacco at least once monthly, 46(11.5) of the males and 34(7.2) of the females take occasionally, 14(1.6%) use substance (marijuana, cocaine, crack, heroin, methamphetamine, hallucinogens, ecstasy) occasionally and 13(1.5%) used medication without prescription at once weekly.
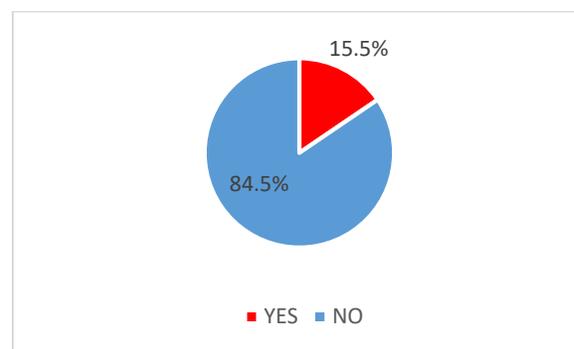

Figure 1: Substance Use

Figure 1 shows that 15.5% of the respondents have a life time use of alcohol/Substance use/Drug misuse.

Table 3: Factors associated with alcohol/substance use

Variable	Alcohol/Substance use		X^2(P-value)
	No n(%)	Yes n(%)	
School type			
University	502(81.4)	115(18.6)	16.222(<0.001) *
Poly technic	236(92.2)	20(7.8)	
Sex			
Male	287(71.8)	113(28.2)	92.327(<0.001) *
Females	451(95.3)	22(4.7)	
Age group			
≤22years	484(89.8)	55(10.2)	29.815(<0.001) *
>22 years	254(76.0)	80(24.0)	
Level of study			
≤ Third Year	640(86.4)	101(13.6)	12.605(<0.001) *
>Third Year	98(74.2)	34(25.8)	
Residence			
On campus	201(84.5)	37(15.5)	0.002(0.967)
Off campus	537(84.6)	98(15.4)	
Parents alive			
None/One parent	79(76.7)	24(23.3)	5.487(0.019)*
Both parents	659(85.6)	111(14.4)	
Father education			
Tertiary	492(89.9)	55(10.1)	29.691(<0.001) *
None/Prim/Sec	169(74.8)	57(25.2)	
Mother education			
Tertiary	506(89.7)	58(10.3)	24.932(<0.001) *
None/Prim/Sec	187(76.3)	58(23.7)	

*Statistical Significance

Table 3 shows that the occupation of the mothers (X^2=9.199, P=0.002) was significantly associated with alcohol/substance use/drug misuse among the respondents. Also, the number of siblings the respondents have (X^2=13.002, P<0.001) was significantly associated with alcohol/substance use/drug misuse among the respondents and the nature of the family of the respondents (X^2=32.209, P<0.001) was significantly associated with alcohol/substance use/drug misuse among the respondents. In the table, Fathers occupation (X^2=7.602, P=0.006), was also significantly associated with alcohol/substance use/drug misuse.

Table 4: Determinants of Substance Alcohol/Substance use/Drug misuse

Variable	AOR (95% Confidence Interval)
School type	
University	3.2(1.6-6.2) *
Poly technic	
Sex	
Male	12.7(7.2-22.2) *
Females	
Age group	
>22 years	1.1(0.6-2.0)
≤22years	
Level of study	
> Third year	1.2(0.6-2.2.2)
≤Third year	
Parents alive	
None/One parent	0.7(0.0-11.1)
Both parents	
Father education	
None/Prim/Sec	2.1(1.3-3.5) *
Tertiary	
Mother education	
None/Prim/Sec	2.1(1.2-3.5)*
Tertiary	
Father occupation	
High/Intermediate	1.6(0.8-3.2)
Low	
Mother occupation	
High/Intermediate	1.8(0.9-3.6)
Low	
Parents children	
5 and more	1.7(1.0-3.0)
1-4	
Family type	
Monogamy	4.0(1.9-8.3) *
Polygamy	

Further analysis using multivariate logistic regression shows that school type – Being in a university (AOR=3.2, CI=1.6-6.2), sex – Being male (AOR=12.7, CI=7.2-22.2), Low level of paternal education (AOR=2.1, CI;3-3.5) and Low level of maternal education (AOR=2.1, CI;3-3.5) were significantly associated with substance use. Monogamous family type (AOR=1.3 CI;1.9-8.3) was also associated with substance use.

Discussion

In this study, less than a quarter of the students had ever used tobacco products, about a quarter of the males and less than a quarter of the females consume alcohol. Furthermore, less than a quarter of the students take substances like marijuana, cocaine, cracks, heroin and other illicit drugs, while less than a quarter had taken medication without physicians' prescriptions. The study showed that less than a quarter of the students reported a life time use of substance.

The prevalence of substance use in this study was 15.5% which was lower than what was reported among students in many parts of Nigeria[22,23] and other parts of the world.[18–20] This reduced use may be attributed to efforts by relevant stake holders to clamp down on the use of these substances.[37] The National Agency for Drug Law Enforcement Agency, a body charged with the responsibility of limiting the use and circulation of harmful substance in Nigeria recently mandated all tertiary institutions in Nigeria to make drug integrity test an institutional policy to curb drug abuse in schools.[38]

Even though our observation is lower than reported in other parts of the country and previous studies in our locality, this finding is of public health importance. It implies that substance pedaling and use is still prevalent in our locality. The import of this prevalence is that of reduced academic efforts, absenteeism from school and other negative societal activities leading to increased potential of dropping out of school.[39] Other problems that may arise include mental and physical health problems, as well as engaging in anti-social practices.[39,40] In extreme cases acute overdose of these substances may lead to sudden death of the students.[41]

In our study, the students who are in universities had greater likely hood of substance use. The reason for this is not clear but a possible scenario could be the learning pattern in the universities which is more theory-based with high workloads

compared with the polytechnics where the pattern of teaching is routed in demonstrations and practical sessions. Therefore, as coping strategy, students in the Universities may resort to substance use to ease down the academic stress. High stress has negative impact on student's overall performance and well -being.[42] The sex of the students showed a significant relationship with the use of psychoactive substances. Males were more likely to indulge in the use of substances when compared to their female counter parts. Most previous studies reported this.[29,30]

The level of paternal education showed a significant relationship with psychoactive substance use in the study. Substance use was more prevalent among the students whose father did not acquire tertiary level of education. This may be because the students whose fathers had lower education may not understand the implications of the use of these substances, hence they cannot not properly educate their wards against the use as parental communication has been shown to influence substance use among young people.[43,44]

The level of maternal education showed a significant relationship with substance use among the students of tertiary institutions in this study. The students whose mother attained secondary education or below were more at risk of using substance. Lower level of maternal education have also show to be a risk factor in the use of psychoactive substances among young people in a similar study.[34] Considering that children spend more time with their mothers, adequate maternal education on the dangers of psychoactive substance use will reduce its use among young people to a large extent.

In our study, the family type was significantly associated with substance use among students. Students who come from a monogamous homes were at higher risk of substance use. A possible explanation is that there may be fewer family members to supervise the young one.[45]

Conclusion

Substance use among undergraduate students in our environment is still prevalent more so among students in the universities than those in other tertiary institutions. Students whose parents have low level of education, male students and students from a monogamous family setting showed more tendency to substance use. The management of the institutions need to increase their efforts to limit the circulation and use of these substances in and around the campuses. Sensitization and counselling programmes on the harmful effects of its use are necessary. Further research could look into the impact of parental education on the effect of substance use among young people.

Conflict of interest statement
The authors report no conflicts of interest.

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