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Prevalence and pattern of psychoactive substance use among government secondary school students in central Nigeria

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Abstract

Introduction: *psychoactive substances are chemicals that affect the nervous system and alter the activity in the brain. Such substances include alcohol and other illicit drugs. This research study aimed to determine the prevalence and pattern of psychoactive substance use among students at a government secondary school in Ilorin, Kwara State, Nigeria.* ***Methods:*** *this study adopts a cross-sectional descriptive survey design. A simple random sampling technique was used to select 104 students for an invitation to fill a semi-structured questionnaire after consenting to the informed consent. Correlational analyses were performed between social characteristics and the knowledge of the effects and prevalence of substance use.* ***Results:*** *thirty-three point seven percent (33.7) of students reported to use psychoactive substances, with alcohol and tramadol being the most consumed. Those aged 15-19 years were found to have a higher prevalence of substances use than other ages. There was an important knowledge of the social perspective and health effects of using such substances, but they persisted in their consumption. Age and school level were observed to have a statistically significant correlation with the knowledge of the effects of drug use.* ***Conclusion:*** *our study shows that the prevalence and pattern of psychoactive substance use among the students are high considering their level and age. The majority of the students knew about psychoactive substance use and its social and health effects. We, therefore, recommend a multi-stakeholder effort within the community to curtail drug use among young people.*

Introduction

Psychoactive substances are chemicals that affect the nervous system and alter the brain's activity [1]. These substances, including alcohol and selected illegal drugs such as cocaine, can lead to dependence syndrome. This behavioural, cognitive and psychological phenomenal cluster develops after continuous use of these substances. It leads to a strong desire to take the drug, thus resulting in having difficulties to controlling its use and persistence despite its harmful effects on health [2]. Drug use disorders are associated with injuries, disease, and deaths. In the general population in 2019, there were about 494,000 deaths and 30 million years of healthy life were lost due to drug use [3]. Among risk factors, adolescence is acknowledged as a critical, risky period for initiating drug use [4]. The impact on this population may have a greater impact on lower-income countries because of their higher proportion of the younger population compared with higher-income countries [5]. Global use of the above mentioned substances was noted to be prevalent in different regions of the world, whereby in Africa, the use of opioids and other drugs increased from 2010 to 2019 [4]. Industrialisation, urbanisation, and increased exposure to a globalised lifestyle have contributed to the increasing trend of substance use in Nigeria [6]. Most initiate this lifestyle through cigarettes and alcohol, subsequently using substances like heroin. The government has recognised this societal issue and has implemented various school-based drug prevention programmes as expressed in the National Drug Control Master Plan (NDCMP) 2015-2019 and expanded in the NDCMP 2021-2025 [7]. The drug problem among young people has been noted at the national level, but studies have shown that it manifests differently depending on the region of the country [2,6]. The multitude of circumstances may cause variations in the drug uptake in communities. Conducting a study to provide data to understand factors that influence psychoactive substance use is critical for

policymakers and the population [8]. With this, it is crucial to determine the prevalence and pattern of psychoactive substance use among government senior secondary school students in Ilorin, Kwara State, in central Nigeria.

Methods

Study design and setting: this was a cross-sectional descriptive study survey that assessed substance use among senior students at a government secondary school in Ilorin in the Kwara State located in Central Nigeria. The instrument for data collection was a semi-structured questionnaire.

Participants and inclusion criteria: this study was conducted among senior secondary school students in Ilorin in the Kwara State. Only registered students who provided their consent were included in the study.

Data collection: using a simple random sampling technique, an analytic sample of 104 senior secondary school students was collected. The survey's content and conduct was based on previous studies used on secondary and tertiary level students in other areas of Nigeria [2,9-11]. The verification of this research completeness used the STROBE (Strengthening the Reporting of Observational Studies in Epidemiology) checklist [12].

Measures

Psychoactive substances: psychoactive substances affect brain functioning and mood changes, and behaviour. The types of substances consumed that were asked in the survey include alcohol, hemp, and weed, among others. Among those who do use, the frequency was queried, whereby it was at least once a day or once a week. The age of first use was also asked to respondents.

Knowledge of prospective effects of psychoactive substance use: psychoactive substance use can result in social and health challenges among individuals, particularly among younger people. The identified aspects of such outcomes asked in the survey were mental illness, predisposition of health challenges, addiction, lower school performance, and general loss of interest in studying.

Social characteristics: age groups were presented in the analyses as 10-14 years, 15-19 years, and 20 years old and over. The analytic sample reflected the secondary school level, which spans six years and was divided into SS1, SS2, and SS3. The final category represented the final year of secondary school in Nigeria. The age distribution of the respondents did not correspond necessarily to respective schooling levels, whereby someone older was not in the more advanced secondary grade of education. Finally, the students studying specialisation were given the focus on the Science, Art, or Commercial department.

Data analysis: descriptive statistics were examined regarding socio-demographic variables and the prevalence of drug use. Bivariate analyses were done to show the prevalence of substance use by gender, age, class, and department and the association between substance use and the pattern of use. Fisher's exact test was used to test for association between the variables because of the small sample size [13]. An alpha level of statistical significance was set at 95%.

Ethical considerations: ethical clearance of this study was obtained from the University of Ilorin Teaching Hospital and Government Secondary School, Ilorin, in Kwara State. The approval to embark on the study was given based on the assurance that the information given by the respondents would be confidential and not be used for any other purpose other than the educative research. We then ensured that strict ethical principles were duly observed throughout the research study. Consent was gained from all participants, and participation in the study was voluntary.

Results

In the analytic sample, about 81% were 15-19 years old and 70% were males (Table 1). More than 40% were in the SS3 level, and most (83.7%) were in the Science department. It was observed that around 34% of the respondents use any psychoactive substances. Correlational analysis was done to determine the association between substance use characteristics as described in Table 2. Among the social characteristics, grade level was observed to be statistically significant (p=0.023). Many of those who use substances were in the SS1 level compared to those in higher levels. The bivariate distribution between social characteristics and individual prospective outcomes of psychoactive substance use during adolescence is shown in Table 3. There is consistency among all the results, whereby most students were aware of the repercussions of taking the mentioned substances. Correlational analyses show that age groups and class levels were statistically significant with the individual characteristics of the sample. The students' department was correlated with knowledge of the effects of mental illness and predisposition of health challenges. The distribution of the students who reported the use of psychoactive substances by social characteristics is presented in Table 4. A majority consume alcohol, while a few use Tramadol and marijuana, among others. About two-thirds of those who used to engage with substances between 10 and 18 years old, while many also had exposure in their respective families. A significant number confirmed the consumption of substances at home. In addition, about half use such substances at least once a day, while others consume at least once a week. More than half of males use psychoactive substances at least once a day (Table 5). Those in SS2 and SS3 levels also use more every day.

Discussion

Psychoactive substance use among secondary schools is notably a problem in Nigeria, such as Imo State [14]. We found the prevalence of psychoactive substance use from the present study to be substantial. This is consistent with the literature where students, even at the university level, had been noted to have an increased prevalence of psychoactive substance use [9,15]. The high prevalence of such substance use among students, especially at the secondary level, has been attributed to the readily availability of these substances [16]. This study shows that more than half of the students had a good understanding of the effects of psychoactive substance use, particularly on mental health and predisposing health challenges. This high level of understanding of the effects of psychoactive substance use could be a result of teaching substances use in Sciences and Social sciences related subjects in tertiary level, which has increased the students' awareness of the side effects of psychoactive substance use [11]. Knowledge from peers may also contribute to this understanding. The distribution and association of psychoactive substance use between the socio-demographic characteristics show that the Age group 15-19 years had the highest prevalence for psychoactive substance use. This might be due to this age group being the age range for students to start living outside their parents' house [11]. This might be because age groups 15-19 years are readily available to try new things in the communities and be greatly influenced by peer pressure. The participants who said they were exposed to the psychoactive substance within 10-18 years had the highest prevalence. This coincides with a study performed in Botswana, where the age range of 15-18 years had the highest prevalence for exposure and debut of psychoactive substance use [15]. Another highly prevalent behaviour is alcohol consumption. Alcohol is commonly used as it is an acceptable form of drink in almost all social gatherings and functions and its wide availability in street shops [17].

Students who have family members taking psychoactive substances were observed to have a propensity to use as well. This is in conformity

with other studies among tertiary-level students in Nigeria and Ethiopia, where a high prevalence of psychoactive substances was observed [9,10,18]. This has been related to children imitating their family member's behaviour, and these individuals cannot effectively counsel the younger ones from refraining from substance use [19]. It becomes apparent that tracing the personal background of students and their respective general circumstances can aid in understanding the current and prospective uptake of psychoactive substances. The current study is essential in understanding substance use among younger people at the community level. With this, limitations should be noted for this endeavour. Firstly, it involved a small sample from one school. Expanding to a more significant sample for the entire Kwara State brings advantages. Causation also cannot be established as only a cross-sectional approach was taken for the survey. A panel study can be done to understand the decision-making process of those in this age group regarding them using psychoactive substances.

Conclusion

There is a particular level of prevalence of psychoactive substance use among Kwara students. Although there is a high level of knowledge of the prospective effect of substance consumption in their personal, social, and economic lives, a notable proportion of the sample still engaged in such activities. Observations here suggest a need for an urgent proactive and anticipatory multifaceted intervention from community stakeholders, including parents, teachers, non-government organisations, government organisations. More importantly, further explorations on the nature of substance use among young people should be performed. It is a delicate matter where the individuals' perspectives should be understood.

What is known about this topic

- *Adolescence is a critical stage youth initiates drug use;*
- *Drug use disorders lead to harmful effects such as injuries, disease, and deaths;*
- *Drug use have increased in Nigeria.*

What this study adds

- *Psychoactive substance use is prevalent among government secondary school students in Central Nigeria;*
- *Knowledge of adverse effects of substance use is relatively high among students at Kwara;*
- *Alcohol, tramadol, and Indian hemp are commonly used psychoactive substances among Kwara students.*

Competing interests

The authors declare no competing interests.

Authors' contributions

The authors equally contributed in the conception and design of the study, conduct of the analyses, and the draft and revision of the manuscript. All the authors have read and agreed to the final manuscript.

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Tables

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Table 3: knowledge of prospective outcomes of psychoactive substance use in adolescence

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Table 1: descriptive characteristics of survey sample

Variables	**Frequency (%)**	
Age group		
10-14 years	13	(12.5)
15-19 years	84	(80.8)
>20 years	7	(6.7)
Sex		
Male	73	(70.2)
Female	31	(29.8)
Class		
SS1	27	(26)
SS2	31	(29.8)
SS3	46	(44.2)
Department		
Science	87	(83.7)
Art	7	(6.7)
Commercial	10	(9.6)
Use of psychoactive substance		
Yes	35	(33.7)
No	69	(66.3)
Total	104	(100)
Source: authors		

Table 2: prevalence of substance use by individual and school characteristics				
	Yes	**No**	**Total**	**p-value**[1]
Age group				
10-14 years	3(23.1)	10(76.9)	13	0.051
15-19 years	29(34.5)	55(65.5)	84	
>20 years	3(42.9)	4(57.1)	7	
Sex				
Male	22(30.1)	51(69.9)	73	0.091
Female	13(41.9)	18(58.1)	31	
Class				
SS1	11(40.7)	16(59.3)	27	0.023
SS2	9(29)	22(71)	31	
SS3	15(32.6)	31(67.4)	46	
Department				
Science	29(33.3)	58(66.7)	87	0.073
Art	3(42.9)	4(57.1)	7	
Commercial	3(30)	7(70)	10	
Total	35(33.7)	69(66.3)	104	
Note: [1]based on fisher's exact test				

Table 3: knowledge of prospective outcomes of psychoactive substance use in adolescence															
	Mental illness			**Predisposition of health challenges**				**Addiction**		**Lower school performance**				**Lose interest in studies**	
	Yes (n(%))	**No**	**p-value 1**	**Yes**	**No**	**p-value**	**Yes**	**No**	**p-value**	**Yes**	**No**	**p-value**	**Yes**	**No**	**p-value**
Age group															
10-14 years	11(84.6)	2(15.4)	0.034	12(92.3)	1(7.7)	0.022	10(76.9)	3(23.1)	0.016	10(76.9)	3(23.1)	0.013	10(76.9)	3(23.1)	0.002
15-19 years	58(69)	26(31)		70(83.3)	14(16.7)		64(76.2)	20(23.8)		66(78.6)	18(21.4)		67(79.8)	17(20.2)	
>20 years	4(57.1)	3(42.9)		4(57.1)	3(42.9)		3(42.9)	4(57.1)		3(42.9)	4(57.1)		2(28.6)	5(71.4)	
Sex															
Male	51(69.9)	22(30.1)	0.184	61(83.6)	12(16.4)	0.204	54(74)	19(26)	0.193	54(74)	19(26)	0.158	53(72.6)	20(27.4)	0.098
Female	22(71)	9(29)		25(80.6)	6(19.4)		23(74.2)	8(25.8)		25(80.6)	6(19.4)		26(83.9)	5(16.1)	
Class															
SS1	20(74.1)	7(25.9)	0.033	25(92.6)	2(7.4)	0.011	20(74.1)	7(25.9)	0.002	21(77.8)	6(22.2)	0.019	22(81.5)	5(18.5)	0.010
SS2	22(71)	9(29)		23(74.2)	8(25.8)		18(58.1)	13(41.9)		21(67.7)	10(32.3)		20(64.5)	11(35.5)	
SS3	31(67.4)	15(32.6)		38(82.6)	8(17.4)		39(84.8)	7(15.2)		37(80.4)	9(19.6)		37(80.4)	9(19.6)	
Department															
Science	62(71.3)	25(28.7)	0.027	74(85.1)	13(14.9)	0.023	63(72.4)	24(27.6)	0.055	67(77)	20(23)	0.081	65(74.7)	22(25.3)	0.096
Art	6(85.7)	1(14.3)		6(85.7)	1(14.3)		5(71.4)	2(28.6)		5(71.4)	2(28.6)		6(85.7)	1(14.3)	
Commercial	5(50)	5(50)		6(60)	4(40)		9(90)	1(10)		7(70)	3(30)		8(80)	2(20)	
Total	73(70.2)	31(29.8)		86(82.7)	18(17.3)		77(74)	27(26)		79(76)	25(24)		79(76)	25(24)	
Note: [1]based on fisher's exact test															

Table 4: background and behaviour among adolescent substance users		
Variables	**Frequency (%)**	
Main substance consumed		
Alcohol	21	(60)
Indian Hemp	5	(14.3)
Tramadol	7	(20)
Weed and others	2	(5.7)
Age of first exposure to substances		
<10 years	3	(8.6)
10-18 years	22	(62.8)
>18 years	10	(28.6)
Users within respective families		
Yes	29	(82.9)
No	6	(17.1)
Frequency of substance use		
At least once a day	18	(51.4)
At least once a week	17	(48.6)
Venues/events for substance use		
Before exams	4	(11.43)
Before sports	4	(11.43)
In the streets	2	(5.71)
At parties	4	(11.43)
At home	21	(60)
Total	35	(100)

Table 5: frequency of psychoactive substance use among adolescent sample			
	≥1 per day n (%)	**≥1 per week**	**Total**
Age group			
10-14 years	2(66.7)	1(33.3)	3
15-19 years	14(48.3)	15(51.7)	29
>20 years	2(66.7)	1(33.3)	3
Sex			
Male	12(54.5)	10(45.5)	22
Female	6(46.2)	7(53.8)	13
Class			
SS1	5(45.5)	6(54.5)	11
SS2	5(55.6)	4(44.4)	9
SS3	8(53.3)	7(46.7)	15
Department			
Science	14(48.3)	15(51.7)	29
Art	2(66.7)	1(33.3)	3
Commercial	2(66.7)	1(33.3)	3
Total	18(51.4)	17(48.6)	35
Source: authors			