

International Journal of Pharmacognosy and Pharmaceutical Research

ISSN Print: 2664-7168
ISSN Online: 2664-7176
Impact Factor: RJIF 8
IJPPR 2023; 5(1): 22-29
www.pharmacognosyjournals.com
Received: 22-01-2023
Accepted: 10-03-2023

Keme Kelvin Yenagoa
Department of Clinical
Pharmacy and Pharmacy
Practice, Public Health
Pharmacy Unit, Niger Delta
University, Nigeria

Joshua F Eniojukan
Department of Clinical
Pharmacy and Pharmacy
Practice, Public Health
Pharmacy Unit, Niger Delta
University, Nigeria

Peter A Owonaro
Department of Clinical
Pharmacy and Pharmacy
Practice, Public Health
Pharmacy Unit, Niger Delta
University, Nigeria

Corresponding Author:
Keme Kelvin Yenagoa
Department of Clinical
Pharmacy and Pharmacy
Practice, Public Health
Pharmacy Unit, Niger Delta
University, Nigeria

Reported substance abuse among tertiary and secondary school students in Bayelsa State: Types of substances and reasons for substance abuse

Keme Kelvin Yenagoa, Joshua F Eniojukan and Peter A Owonaro

DOI: <https://doi.org/10.33545/26647168.2023.v5.i1a.48>

Abstract

Substance abuse is common among teens and young adults. This has become a public health problem in Nigeria and other parts of the world. This study aimed to determine the different types of substances abused and the reasons for abusing pharmaceuticals and non-pharmaceutical substances among tertiary and secondary school students in Bayelsa State of Nigeria. The study is a descriptive correlational cross-sectional study. The sampling technique used was simple random sampling. Ethical approval was obtained from the Bayelsa State Ministry of Health Research and Ethics Committee, the principal, the University Ethics community, and the local council areas' ethics committees. A sampling frame was made for six faculties in Niger Delta University namely: Pharmacy, Engineering, Art, Social Sciences, Management, and Sciences. Likewise, this was done for the different classes in the Secondary School from junior secondary two to senior secondary three. The sample size for this study was 308 for secondary school and 384 for tertiary school (n=692). A structured questionnaire was used to collect data. A total of 68.4% of respondents were males. The substances commonly abused among the respondents were sildenafil, tramadol, piriton, codeine, and rohypnol. While the non-pharmaceuticals were kola-nut to alcoholic beverages. This study results showed that there was no association in the use of cocaine codeine, tramadol, marijuana, bromhexine, cyproheptadine, diazepam, chlorpheniramine, beer, local gin, cigarette, kola nut, amphetamines, paints, gum/glues, methylated spirit and coke, sildenafil, petrol, Rohypnol and hot drinks (whisky/brandy) among tertiary and secondary school students. The study showed that 79.9%, 79.2%, 74.4%, and 65.3%, of respondents respectively in secondary school abuse drugs/substances to relieve depression, relieve anxiety, build muscles, and relieve body pain and peer pressure among other reasons. There were associations ($P > 0.05$) between reasons; to relieve depression, peer pressure, stimulating appetite, being hard-hearted, or engaging in a fight among the respondents. There was an association between relief of anxiety ($\chi^2 = 18.687$; $df = 6$; $P\text{-value} = 0.005$) and muscle building among tertiary and secondary school students. Therefore, the government and all relevant agencies need to take appropriate steps in curbing this menace, putting strategic measures and interventions capable of arresting substance abuse among tertiary and secondary school students.

Keywords: Types, reasons, substance abuse, tertiary, secondary, school student, Bayelsa

Introduction

The importance of substance abuse, as a public health problem warranted its inclusion as a target 5: 'Strengthen the prevention and treatment of substance abuse; narcotics drug abuse and harmful use of alcohol' under goal 3 of the Sustainable Development Goal (Nyasimi, *et al.*, 2015) [28]. However, substance abuse is categorized as stimulants, hallucinogens, narcotics, depressants (Sedatives and tranquilizers), and anabolic steroids. Although worldwide prevalence is high, researchers noted that illicit drug use remains vastly underestimated because of the inherent difficulty in gathering data, particularly with respect to the use of hallucinogenic agents and inhalants, or the nonmedical use of anabolic steroids or benzodiazepines such as diazepam (Bassi *et al.*, 2017) [11]. The use and abuse of drugs by adolescents has become one of the most disturbing health-related phenomena in Nigeria and other parts of the world (NDLEA 2009). Drug use continues to exact a significant toll on valuable human lives and productivity (Resnicow K, *et al.*, 1999) [32]. Substance abuse has obviously become a rapidly growing global phenomenon (Lakhanpal and Agnihotri 2007) [13], (Attah *et al.*, 2016) [10].

Almost 70% of adolescents will have tried alcohol, half will have taken an illegal drug, nearly 40% will have smoked a cigarette, and more than 20% will have used a prescription drug for a nonmedical purpose by their senior years in high school (Nora and Volkows 2014) [27]. Despite the relatively recent prescription as an illegal drug in much of the world, marijuana retains its historical popularity (Bassi *et al.*, 2017) [11]. Asserted experimental curiosity, peer group influence, lack of parental supervision, personality problems due to socio-economic conditions, the need for energy to work for long hours, availability of drugs and the need to prevent the occurrence of withdrawal symptoms are the main factors associated with substance use among adolescents (Atwolil *et al.*, 2015) [9]. Amphetamines are also used among students (Oshodi, *et al.* 2010) [31]. There are empirical pieces of evidence from studies done in various secondary schools and universities in Nigeria to identify the common substances used among students. They identified tobacco/cigarette, alcohol, marijuana, tranquilizers, kola nut, inhalants, and cough syrups to be the most used substances (Abasiubong, F. *et al.*, 2014 [1]; Atoyebi and Atoyebi (2013) [8]; Essien (2010) [16]; Ani, (2014) [7]. Prevailing consequences arising from drug abuse among adolescents, youths, and adults include academic problems, physical health impairment, stigmatization, family and social-economic problems, unemployment, and delinquency (Aklog *et al.*, 2013) [4]. The increasing production, distribution, promotion, and easy availability of substances together with the changing values of society has resulted in rising substance abuse-related problems emerging as a major public health concern in Nigeria. (Akintunde *et al.*, 2022) [3]. Psychoactive substances are any chemical substance that alters physical and psychological function when ingested. These include illicit drugs like cocaine, heroin, lysergic diethylamide (LSD), and ecstasy. Illicit drugs like alcohol and marijuana, and prescription drugs used for non-medical reasons like amphetamines, benzodiazepines, hallucinogens, tramadol, and others. (Soremekun *et al.*, 2021) [33]. Therefore, this study aimed to determine the different types of substances abused and the reasons for abusing pharmaceuticals and non-pharmaceutical substances among tertiary and secondary school students in Bayelsa State of Nigeria.

Methods

Study Area

This study was conducted at Niger Delta University and Government Model Secondary School Sagbama all in Bayelsa State of Nigeria.

Study Population: The target population for this study is all regular students of Niger Delta University, boarding and

non-boarding students of Government Model Secondary School Sagbama. In the 2018/2019 academic session the population of full-time students of Niger Delta University according to the Academic planning unit of NDU gives a total student population of 17169, while that of Government Model Secondary School Sagbama from the school register gives a total of 1342 students.

Study Design

This study utilized a descriptive correlational cross-sectional design.

Sampling

A sampling frame was made for six faculties in Niger Delta University namely: Pharmacy, Engineering, Art, Social Sciences, Management, and Sciences. Likewise, this was done for the different classes in the Secondary School from junior secondary two to senior secondary three. Then random sampling was done for the various departments and levels in the university setting. Random sampling was also done for the various classes and in their arms in the secondary school. Yamane's (1967) formula was used to determine the sample size. Whereby 390 was obtained from the university and 308 from that of the secondary school, bringing the total of students sampled to 698.

Data Collection and Analysis

Data was collected by using an anonymous self-administered questionnaire. Following a pre-test, the final data collected was analyzed with the aid of SPSS version 23.0, and a Chi-square t-test was used for association analysis.

Ethical Clearance

Permission to conduct the survey was sought and obtained from the Bayelsa State Ministry of Health Research and Ethics Committee, the principal, and the students.

Results

A total of 700 questionnaires were distributed and 692 were retrieved properly filled and used for the analysis. This gives a response rate of 99 percent.

Demographic Data of Respondents

A total of 68.4% of respondents were males and 31.6% were females, 23%, 31.1% and 21.5% were respectively aged 12-15, 16-18; and 25-35 years. The majority (94.5%) of respondents were single, 55.5% were tertiary school students distributed among the 6 Faculties and 44.5% were secondary school students spread across JSS2 to SS3. Table 1

Table 1: Socio-demographic data of respondents n = 692

Variable		Secondary		Tertiary		Mean
		N	%	N	%	
Gender	Male	208	67.5	266	69.3	68.4
	Female	100	32.5	118	30.7	31.6
Age	12-15	130	42.2	29	7.6	24.9
	16-18	149	42.2	66	17.2	42.8
	19-21	17	5.5	75	19.5	12.5
	22-24	8	2.6	69	18.0	10.3
	25-35	4	1.3	145	37.8	19.6
Marital Status	Single	305	99.0	349	90.9	94.9
	Married	2	6	20	5.2	5.6
	Cohabiting	1	3	15	3.9	3.5

The Substances Mostly Abused

Responses were drawn from the respondents on the substances most commonly abused by them or their peers as captured in Table 2 below.

Kola-nut (25.4% and 25.2%), beer (25.2% and 24.6), local gin (Ogogoro) (23.9% and 23.3%), Rohypnol (19.8% and 21.2%), hot drinks like whisky and brandy (19.7% and 20.9%), tramadol (18.4% and 19.6%), chlorpheniramine

(19.7% and 18.1%), cigarette (16.6% and 16.3%) codeine (15.6% and 16.2%) were mostly abused by both respondents and their peers in secondary and tertiary schools respectively. Whereas few users of marijuana (9.9% and 10.7%) cocaine (6.8% and 7.3%), methylated spirit plus coke (6.8% and 8.4%), gum/glues (4.7% and 5.1%), amphetamines (2.4% and 2.6%) and paints (2.0% and 2.1%) respectively as shown in table 2 below.

Table 2: Substance abused by Respondents and their peer

Substance	Secondary					Tertiary				
	Respondent		Peer			Respondent		Peer		
	n	%	N	%		N	%	n	%	
Cocaine	12	3.9	30	9.7	6.8	14	3.6	42	10.9	7.3
Codeine	44	14.3	52	16.9	15.6	55	14.3	69	18.0	16.2
Tramadol	54	17.5	59	19.3	18.4	66	17.2	84	21.9	19.6
Marijuana	30	9.7	31	10.1	9.9	38	9.9	49	12.8	11.4
[Cyproheptadine	37	12.0	42	13.6	12.8	51	13.3	52	13.5	13.4
Bromhexine	32	10.4	23	7.5	9.0	39	10.2	28	7.3	8.8
Diazepam (D5)	11	3.6	22	7.1	5.4	13	3.4	36	9.4	6.4
Chlorpheniramine	70	22.7	51	16.6	19.7	80	20.8	59	15.4	18.1
Beer	110	35.7	45	14.6	25.2	133	34.6	56	14.6	24.6
Local gin	127	41.2	20	6.5	23.9	149	38.8	29	7.6	23.2
Cigarette	84	27.3	18	5.8	16.6	92	24.0	33	8.6	16.3
Kola-nut	140	45.5	16	5.2	25.4	167	43.5	26	6.8	25.2
Amphetamines	6	1.9	9	2.9	2.4	9	2.3	11	2.9	2.6
Paints	7	2.3	5	1.6	2.0	10	2.6	6	1.6	2.1
Gum/glues	14	4.5	15	4.9	4.7	18	4.7	21	5.5	5.1
Methylated spirit with Coke	14	4.5	28	9.1	6.8	18	4.7	46	12.0	8.4
Sildenafil	71	23.1	35	11.4	17.3	82	21.4	49	12.8	17.1
Petrol	2	0.6	17	5.5	3.1	3	8.0	21	5.5	6.8
Rohypnol	61	19.8	59	19.2	19.5	75	19.5	88	22.9	21.2
whisky/brand	92	29.9	29	9.4	19.7	115	29.9	42	10.9	20.4
Others	4	1.3	4	1.3	1.3	6	1.6	6	1.6	1.6

Reasons for Substance Abuse

Responses were drawn from the respondents on the various reasons for substance abuse from classes in secondary school and various levels, departments, and faculties in the university. The data collected were carefully rated on a 3-point Likert scale of 1. Always 2, Sometimes, and 3 Never. This was further drawn into positive and negative tables where 'Always and sometimes' are considered positive responses and 'Never' is considered a negative response.

The study data showed that 79.9%, 79.2%, 74.4%, and 65.3%, of respondents respectively in secondary school abuse drugs/substances to relieve depression, relieve anxiety, build muscles, and relieve body pain among other reasons. While 79.4%, 70.3%, 66.9%, and 66.4% of respondents respectively in tertiary school abuse drugs/substances to relieve anxiety, muscle building, relief depression and to relieve body pain among other reasons as seen in Table 3 below

Table 3: Reasons for abusing substances

Variables	Secondary				Tertiary			
	Positive		Negative		Positive		Negative	
	n	%	N	%	n	%	N	%
Euphoric effect	189	61.4	78	25.3	246	64.0	92	24.0
Aphrodisiac effect	143	46.4	121	39.3	190	49.5	141	36.7
Stay awake	179	58.2	81	26.3	230	59.3	95	24.7
Building confidence	156	50.6	109	35.4	198	51.6	127	33.1
Relieve body pain	201	65.3	64	20.8	255	66.4	77	20.1
Relief depression	246	79.9	80	26	257	66.9	93	24.2
Peer pressure	163	52.9	88	28.6	209	54.4	104	27.1
Increase appetite	179	58.2	90	29.2	234	61.0	100	26.0
To be hard-hearted	78	25.3	79	25.6	103	26.8	101	26.3
Relief anxiety	144	46.8	48	15.6	305	79.4	60	15.6
Muscle building	229	74.3	75	24.4	270	70.3	106	27.6
For engaging in a fight	70	22.7	207	67.2	90	23.4	258	67.2

Hypotheses

HO¹: There is no significant difference in the different types of substances mostly abused among tertiary and secondary school students

This study results showed that there was no association ($p > 0.05$) in the use of cocaine codeine, tramadol, marijuana, bromhexine, cyproheptadine, diazepam, chlorpheniramine, beer, local gin, cigarette, kola nut, amphetamines, paints,

gum/glues, methylated spirit and coke, sildenafil, petrol, and secondary school students. As shown in Table 4 below.
Rohypnol and hot drinks (whisky/brandy) among tertiary

Table 4: Chi-Square Analysis of the Types of Substances abused stratified by institutions

Institutions	Cocaine				Total	Chi-Square (X²)	DF	P value
Secondary	261	12	30	5	308			
Tertiary	321	14	42	7	384			
Total	583	26	72	12	693			
	Codeine						6	0.959
Secondary	176	44	52	36	308	1.652	6	0.949
Tertiary	208	55	69	52	384			
Total	384	99	121	88	692			
	Tramadol							
Secondary	160	54	59	35	308	4.112	6	0.661
Tertiary	178	66	84	56	384			
Total	338	120	143	91	692			
	Marijuana/weed							
Secondary	229	30	31	18	308	4.375	6	0.626
Tertiary	263	38	49	34	384			
Total	492	68	80	52	692			
	Bromhexine							
Secondary	249	32	23	4	308	0.867	6	0.990
Tertiary	309	39	28	8	384			
Total	558	71	51	12	692			
	Cyproheptadine							
Secondary	208	37	42	21	308	1.898	6	0.929
Tertiary	247	51	52	34	384			
Total	455	88	94	55	692			
	Diazepam D5							
Secondary	273	11	22	2	308	1.600	6	0.953
Tertiary	331	13	36	4	384			
Total	604	24	58	6	692			
	Chlorpheniramine							
Secondary	185	70	51	2	308	1.566	6	0.955
Tertiary	241	80	59	4	384			
Total	426	150	110	6	692			
	Beer							
Secondary	128	110	45	25	308	6.010	6	0.422
Tertiary	145	133	56	50	384			
Total	273	243	101	75	692			
	Local gin (Ogogoro)							
Secondary	142	127	20	19	308	4.852	6	0.563
Tertiary	168	149	29	38	384			
Total	310	276	49	57	692			
	Cigarette							
Secondary	189	84	18	17	308	5.967	6	0.427
Tertiary	225	92	33	34	384			
Total	414	176	51	51	692			
	Kola nut							
Secondary	139	140	16	13	308	4.280	6	0.639
Tertiary	165	167	26	26	384			
Total	304	307	42	39	692			
	Amphetamines							
Secondary	293	6	9	308		0.181	4	0.996
Tertiary	364	9	11	384				
Total	657	15	20	692				
	Paints							
Secondary	290	7	5	6	308	0.164	6	1.000
Tertiary	360	10	6	8	384			
Total	650	17	11	14	692			
	Gum/glues							
Secondary	278	14	15	1	308	0.408	6	0.999
Tertiary	343	18	21	2	384			
Total	621	32	36	3	692			
	Methylated spirit and Coke							
Secondary	263	14	28	3	308	2.266	6	0.894
Tertiary	314	18	46	6	384			

Total	577	32	74	9	692			
Sildenafil								
Secondary	197	71	35	5	308	1.842	6	0.934
Tertiary	243	82	49	10	384			
Total	430	153	84	15	692			
Petrol								
Secondary	287	2	17	2	308	0.426	6	0.999
Tertiary	356	3	21	4	384			
Total	643	5	38	6	692			
Rohypnol								
Secondary	183	61	59	5	308	3.260	6	0.776
Tertiary	211	75	88	10	384			
Total	394	136	147	15	692			
Hot drinks (whisky/ brandy)								
Secondary	170	92	29	17	308	4.667	6	0.587
Tertiary	193	115	42	34	384			
Total	363	207	71	51	692			

HO²: There is no significant difference in the various reasons for substance abuse among tertiary and secondary school students

The study results showed there were no associations ($P > 0.05$) for various reasons; to relieve depression, peer

pressure, to stimulate appetite, being hard-hearted, or engaging in a fight with respondents (Tertiary and secondary). However, there was an association between relief anxiety ($P = 0.005$) and muscle building with respondents' educational levels (Tertiary and secondary).

Table 5: Chi-square analysis of the reasons for substance abuse stratified by institutions

Institution	For a euphoric effect (to feel high)				Total	Chi-square (χ^2)	Df	P-value
	Always	Sometimes	Never					
1	41	32	157		308	7.588 ^a	6	.270
2	46	45	201		384			
	87	77	358		692			
Aphrodisiac effect								
1	44	18	125	121	308	6.755	6	.344
2	53	23	167	141	384			
	97	41	292	262	692			
To stay awake								
1	48	35	144	81	308	6.288	6	.392
2	61	37	191	95	384			
	109	72	335	176	692			
To build confidence among peer groups and others								
1	43	25	131	109	308	6.389	6	.381
2	59	29	169	127	384			
	102	54	300	236	692			
To kill pain								
1	43	53	148	64	308	6.342	6	.386
2	52	66	189	77	384			
	95	119	337	141	692			
To relief depression								
1	27	35	166	80	308	10.569	6	.103
2	34	42	215	93	384			
	61	77	381	173	692			
Peer pressure								
1	57	24	139	88	308	4.597	6	.596
2	71	30	179	104	384			
	128	54	318	192	692			
To increase or stimulate appetite								
1	39	47	132	90	308	8.138	6	.228
2	50	54	180	100	384			
	90	101	312	190	692			
To be hard-hearted when taking certain actions								
1	151	4	74	79	308	1.644	6	.949
2	180	7	96	101	384			
	331	11	170	180	692			
To relief anxiety								
1	16	87	157	48	308	18.687	6	.005
2	19	101	204	60	384			
	35	188	361	108	692			
For muscle building								
1	4	94	135	75	308	54.128	6	.000

2	8	107	163	106	384			
	12	201	298	181	692			
For engaging in a fight								
1	31	9	61	207	308	9.557	6	.145
2	36	14	76	258	384			
	67	23	137	465	692			

Discussion

Substances most commonly abused by Respondents:

Kola nut was the most patronized non-pharmaceutical substance which was followed by Local gin (commonly referred to as Ogogoro), beer, and hot drinks. On the aspects of inhalation, more respondents smoked cigarettes than marijuana (a.k.a. weed). On the pharmaceutical front, Sildenafil was most patronized over the likes of Chlorpheniramine (Piriton), Codeine, and Rohypnol which were among the most sought drugs.

When comparing the most abused drug/substance by either respondent or his/her peer or both, it showed that Kola-nut for secondary school respondents and tertiary school respondents was mostly abused. Adolescents in school use Kola nut serves a stimulant to keep them awake while reading especially during the examination periods and which is also in line with the availability and economic theories in the literature review of this study. This is similar to other studies conducted by Oshodi *et al.*, (2010) [31], Igwe *et al.*, (2009) [19], and Idris & Sambo (2009) [17]. Local gin (ogogoro), Beer, and Hot drinks (whisky/brandy) are used by respondents in secondary school. Experimentation with alcohol is common among adolescents, this occurs because of the developmental changes that spark teenage alcohol consumption. This is consistent with studies conducted by Jatau *et al.*, (2021) [20], Idowu *et al.*, (2018) [18] and Igwe *et al.*, (2009) [19], and Adje *et al.*, (2015) [2] which entailed Identity confusion theory, other theories confirmed the use/abuse of alcohol includes Economic theory- The cost of substances such as alcohol, cigarettes, and cannabis is less. As a result, adolescents abuse these substances because they are available and affordable (McLellan, 2017) [25], Availability theory- Research has shown that school-going youth find it easy to buy alcohol from petty trade stores, supermarkets, bars (Khandeparkar and Motiani 2020) [22]. Similarly, respondents from the tertiary institution also use/abuse alcohol. It is an accepted socio-cultural norm to use alcohol in most social gatherings. It is not regarded as a crime by society when young adults consume alcohol at such parties. As reported by Adeyemo *et al.*, (2016), Oshodi *et al.*, (2010) [31], and Adje. *et al.*, (2015) [2].

This study revealed that Rohypnol is also abused by students which was recorded in the studies conducted by Umukoro *et al.*, (2021) [35] and Idowu *et al.*, (2018) [18]. Chlorpheniramine (Piriton) is normally taken for sedative effect by most respondents in agreement with studies conducted by Al-Sayed *et al.*, (2014) [6] Tramadol and codeine are drugs that are commonly abused by respondents and their peers in secondary schools which is in agreement with studies conducted by Anzaku (2019) [36]. These drugs are mostly abused for their euphoric effects, sedation, used to relieve stress, enhancement of sexual intercourse, and addictive effects. This is similar to previous studies conducted by Ehis, *et al.*, (2021) [14], Ajayi and Somefun, (2020) [5], Bashirian (2014) [12], and Mamman and Lawal, (2014) [24].

Reasons for substance use/abuse: In this study, various reasons were reported for engaging in substance abuse among students both in tertiary and secondary school respectively.

The majority (79.9%) of respondents from secondary school use/abuse drugs/substances to relieve depression or feelings of unhappiness. The depression may be due to some reasons such as lack of finance, unpleasant school experiences, or situations that are affecting the students negatively either from school authorities or fellow students. Thus, drugs/substances are used as an escape route to relieving their depressive state, not minding the negative impacts of these substances. This is in agreement with other studies conducted in which students abuse substances to relieve depression, Obogo and Njoku (2017) [29], Umukoro *et al.*, (2021) [35]. On the other hand, this study revealed that respondents from tertiary institutions also abuse drugs to relieve depression (66.9%). Depression may be seen in this context as unhappiness or stress from hectic school activities and events. It's believed that alcohol and other psychoactive substances help to relieve depression and anxiety temporarily because alcohol acts as a sedative. McManus *et al.*, (2016) [26].

Other pertinent reasons students abuse substances both in secondary and tertiary school respectively include muscle building, relief of body pains, the euphoric effect from these substances, staying awake during reading hours, increased appetite, peer pressure, building confidence among their peers, and in school, to relief anxiety, for aphrodisiac effect which is to enhance sexual activities. A few respondents abuse drugs/substances to be hard-hearted in taking some decisions and to be used when to be engaged in fights as reported also in other studies conducted by Sanni and Aransi (2020) [34], Chikere and Mayowa (2011) [13], Umukoro *et al.*, (2021) [35], Atoyebi & Atoyebi (2013) [8], Johnson *et al.*, (2017) [21], Eniojukan (2014) [15], Oshodi *et al.*, (2010) [31], Olatunji, *et al.*, (2017) [30].

Hypotheses

HO₁: There is no significant difference in the type of substances mostly abused among tertiary and secondary school students.

Data from the analysis showed that there was no significant difference in the type of substances abused among tertiary and secondary school students. Thus, the null hypothesis was upheld.

HO₂: There is no significant difference in the various reasons for substance abuse among tertiary and secondary school students.

Data showed from the analysis that there was a significant difference in muscle building and to the relief of anxiety. However, there were no significant differences in relief of depression, peer pressure, stimulating appetite, being hard-hearted, and engaging in fights.

Conclusion

This study identified different types of substances mostly abused by students both in tertiary and secondary and the various reasons adduced for abusing these substances which is a source of concern to the school authorities, family members, and society in general because these substances have a definite negative impact on these students.

Recommendation

Since students abuse different types of substances for various reasons therefore, the government and all relevant agencies need to take appropriate steps in curbing this menace, putting strategic measures and interventions capable of reducing the sale of these substances of abuse in and around schools to students and the populace, inclusion of drug/substance abuse programs in the school curriculum, setting up substance abuse clubs for students' enlightenment, regular substance abuse educational campaigns and appropriate laws should be enforced for only trained and licensed personnel to handle prescription medicines.

Contribution to literature

This study has demonstrated the different types and reasons adduced for substance abuse among tertiary and secondary school students in Bayelsa State.

Limitations of the study

Non-inclusion of other tertiary and secondary schools, other adolescents, and youth in the state who are not students. This study did not cover another area council in the State.

Acknowledgment

There was no conflict of interest among the authors. The authors appreciate the statisticians that analysed this study data.

References

1. Abasiubong F, Udobang JA, Idung AU, Udoh SB, Jombo HE. A Comparative Study of Pattern of Substance Use in Two Nigerian Cities Located in the Southern and Northern Nigeria. *An International Multidisciplinary Journal*. 2014;8(2):33.
2. Adje DEU, Oyita GI, Eniojukan JF. Substance abuse among adolescents: prevalence and patterns of alcohol consumption among senior secondary school students in Abraka, Delta state, Nigeria. *Scholars Academic Journal of Pharmacy*. 2015;4(1):63-69.
3. Akintunde CA, Akintunde EA, Gurumyen BD. The Social Construction of Drug/Substance Abuse among Youths in Jos, Nigeria. *Int. J. Sci. Res. in Multidisciplinary Studies*, 2022, 8(9).
4. Aklog T, Tiruneh G, Tsegay G. Assessment of substance abuse and associated factors among students of debre markos poly technique college in debre markos town, East Gojjam Zone, Amhara Regional State, Ethiopia, 2013. *Global journal of medical research*. 2013;13(4):1.
5. Ajayi AI, Somefun OD. Recreational drug use among Nigerian university students: Prevalence, correlates, and frequency of use. *PLoS One*, 2020, 15(5).
6. Al-Sayed AA, Al-Rashoudi AH, Al-Eisa AA, Addar AM, Al-Hargan AH, Al-Jerian AA, *et al.* Sedative drug use among King Saud University medical students: a cross-sectional sampling study. *Depression research and treatment*; c2014.
7. Ani GN. Prevalence of Substance Abuse among Senior Secondary Students in Mainland Local Government, Lagos. *Global Journal of Medicine and Public Health*. 2014;3(6):78-86.
8. Atoyebi OA, Atoyebi OE. The pattern of substance abuse among senior secondary school students in a Southwestern Nigerian city. *International Review of Social Sciences and Humanities*. 2013;4(2):54-65.
9. Atwoli L, Mungla PA, Ndung'u MN, Kinoti KC, Ogot EM. Prevalence of substance use among college students in Eldoret, Western Kenya; c2015.
10. Attah AP, Baba E, Audu JS. The effects of drug abuse and addiction on academic performance of students in federal polytechnic Idah, Kogi State Nigeria. *International Journal of Democracy and Development Studies*. 2016;2(2):13-22.
11. Bassi AP, Idoko L, Ogundeko TO, Ramyil MSC, Abisoye-Ogunniyan A, Ogbole EA, *et al.* Substance Abuse and its Prevalence Among Secondary School Adolescents in Kagoro, Kaduna State, Nigeria *World Journal of Research and Review*. 2017;5(1):11-16.
12. Bashirian S, Barati M, Fathi Y. Prevalence and factors associated with Tramadol abuse among college students in the west of Iran: an application of the Theory of Planned Behavior. *Avicenna Journal of Neuro Psycho Physiology*. 2014;1(1):26-30.
13. Chikere EI, Mayowa MO. Prevalence and perceived health effect of alcohol use among male undergraduate students in Owerri, South-East Nigeria: a descriptive cross-sectional study. *BMC Public Health*. 2011;11:118.
14. Ehis BS, Esene H, Okoshone SE, Okun O, Okon ES. Prevalence And Use of Codeine as Substance of Abuse Among Undergraduate Students in South-South Nigeria. *Annals of Medical and Surgical Practice*. 2021;6(1):23-36.
15. Eniojukan JF, Chichi RM. Substance Abuse among Adolescents: 1, Prevalence and Patterns of Alcohol Use in Benue State, Nigeria. *Journal of Pharmacy*. 2014;4(12):48-52.
16. Essien CF. Drug use and abuse among students in tertiary institutions-the case of the federal university of Technology, Minna. *Journal of research in national development*. 2010;8(1):35-42.
17. Idris SH, Sambo MN. Psycho-active substance use among in-school adolescents in Zaria, Northwestern Nigeria: what are the triggers? *Nigerian Journal of Medicine*, 2009, 18(3).
18. Idowu A, Aremu AO, Olumide A, Ogunlaja AO. 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*, 2018, 18(3).
19. Igwe WC, Ojinnaka N, Ejiofor SO, Emechebe GO, Ibe BC. Socio-demographic correlates of psychoactive substance abuse among secondary school students in Enugu, Nigeria. *European Journal of Social Sciences*. 2009;12(2):277-283.
20. Jatau AI, Sha'aban A, Gulma KA, Shitu Z, Khalid GM, Isa A, *et al.*, The Burden of Drug Abuse in Nigeria: A Scoping Review of Epidemiological Studies and Drug Laws, *Public Health Reviews*. 2021;21:1.

21. Johnson Ofonime, Akpanekpo Emaediong, Okonna EM, Adeboye SE, Udoh AJ. The Prevalence and Factors Affecting Psychoactive Substance Use among Undergraduate Students in University of Uyo, Nigeria. *Journal of Community Medicine and Primary Health Care*. 2017;29:11-22.
22. Khandeparkar K, Motiani M. The effect of alcohol consumption and contextual cues on the evaluation of new brands of alcoholic beverages at the POS. *Journal of Retailing and Consumer Services*. 2020;55:102120.
23. Lakhapal P, Agnihotri AK. Drug abuse an international problem: A short review with special reference to the African continent. *Indian Journal of Forensic Medicine & Toxicology*. 2007;1(1):3-12.
24. Mamman H, Lawal B. The effectiveness of school-based substance abuse prevention program on secondary school students' attitudes towards benylin with codeine in Katsina, Nigeria. *International Journal of Physical and Social Sciences*. 2014;4(2):211-220.
25. McLellan AT. Substance Misuse and Substance Use Disorders: Why do they Matter in Healthcare? *Transactions of the American Clinical and Climatological Association*. 2017;128:112-130.
26. McManus S, Bebbington PE, Jenkins R, Brugha T. Mental health and wellbeing in England: The adult psychiatric morbidity survey. NHS Digital; c2016.
27. Nora D, Volkow MD. National Institute on drug abuse, Principles of adolescent substance Use Disorder Treatment: A Research-Based Guide, NIH Publication Number; c2014. p. 14-7953.
28. Nyasimi Mary, Peake Linda. Review of Targets for the Sustainable Development Goals: The Science Perspective Paris: International Council for Science; c2015. p. 31-34.
29. Obogo GO, Njoku JN. Gender, Depression and Drug Abuse Among Senior Secondary School Students in Calabar Education Zone of Cross River State, Nigeria. *European Journal of Education Studies*. 2017;3(1):1-10.
30. Olatunji OA, Owoyomi VA, Oluwadamilare AM. Social and Health Consequences of Substance Abuse among Nigerian Youths in Kosofe Local Government Area, Lagos-State, Nigeria. *Journal of Social Sciences and Humanities Research*. 2017;5(04):32-38.
31. Oshodi OY, Aina OF, Onajole AT. Substance use among secondary school students in an urban setting in Nigeria: prevalence and associated factors. *African journal of psychiatry*. 2010;13(1):52-57.
32. Resnicow K, Smith M, Harrison L, Drucker E. Correlates of occasional cigarette and marijuana use: are teens harm reducing?. *Addictive Behaviors*. 1999;24(2):251-266.
33. Soremekun RO, Omole OE, Adeyemi OC, Oshatimi AM. Assessment of use of psychoactive and other non-prescription drugs among students of selected tertiary institutions in Ekiti State South West Nigeria-A baseline study. *Heliyon*, 2021, 7(2).
34. Sanni KT, Aransi WO. Perceived Psychosocial Factors as Determinants of Drug Use and Abuse among Public Secondary School Youths in Osun State, Nigeria. *American Journal of Education and Learning*. 2020;5(1):13-23.
35. Umukoro NN, Aruldhas BW, Rossos R, Pawale D, Renschler JS, Sadhasivam S. Pharmacogenomics of oxycodone: a narrative literature review. *Pharmacogenomics*. 2021 Apr;22(05):275-90.
36. Anzaku IM, Alfred BY, Nden T, Emeson S, Nkiru O. Environmental Effects of Gully Erosion in Nigeria Case Study of Nanka Community, Orumba North, LGA of Anambra State. *Journal of Environment and Earth Science*. 2019 Oct 31;9(10):68-82.