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Prevalence and patterns of substance abuse among tertiary and secondary school students in Bayelsa State

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Abstract

Substance abuse is common among teens and young adults. It has become a public health problem in Nigeria and other parts of the world. There is a need for a thorough empirical investigation of substance abuse prevalence and the associated effects on Bayelsa State's secondary and university school students. This study aimed to determine the prevalence and patterns of substance abuse 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 and analyzed it. A total of 68.4% of respondents were males. The prevalence rate (61.6%) of respondents, use of drugs two three times or more for non-medical purposes (69.1%), and abuse of more than one drug/substance (40.0%). Respondents (69.1%) had either used drugs two to three times or more not for medical purposes. Data from the study revealed 59.5% abuse of a substance(s) or drug(s) for non-medical use in the last month. Furthermore, the study revealed that 56.2% of drugs/substances are mostly abused in the solid State. The institutions were associated with the prevalence of substance abuse. 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: Prevalence, substance Bayelsa, abuse tertiary, secondary, school student

Introduction

Substance abuse among the youth has become one of the most alarming health-related issues in Nigeria and the rest of the globe (Alimi, 2020) [6]. Drug abuse continues to have a devastating impact on both the quality of life and the output of society. Drug overdoses resulted in an estimated death of 183,000 people in 2012, with a mortality rate of 40.0% (Range: 20.8-49.3%) per million people between the ages of 15 and 64. (Jacobus and Tapert, 2014) [14]. Substance abuse is a worldwide epidemic that is rising at an alarming rate (Chia, 2016) [10]. Seventy-five percent (75%) will have tried alcohol; half of them will use an illicit drug and over forty percent of them smoke cigarettes by the time they are in high school. More than twenty percent of them, however, use prescription drugs for nonmedical purposes (Nora and Volkows 2014) [19]. Substance abuse was included as a target 5 of Sustainable Development Goals because of its significance as a public health issue: (Improve efforts to prevent and cure drug misuse, including the abuse of drugs and the hazardous consumption of alcohol.) Goal 3 of the Sustainable Development Goals is referred to here (Nyasimi *et al.*, 2015) [20]. Several studies in Nigeria and outside have reported the most abused substances in Nigeria. The most often used drugs were reported to be cigarettes smoking, alcohol, marijuana, tranquilizers, kola nuts, inhalants, and cough syrups (Abasiubong. *et al.*, 2014; Ani, 2014; Adeyemo *et al.*, 2016) [1, 7, 2].

The above drug has several effects on the users and secondary use in our population. This has increased our mortality and mobility indices in the country. This study based its hypothesis postulation on (There is no significant difference in the prevalence of substance abuse among tertiary and secondary school students).

Therefore, this study is set to evaluate the prevalence and patterns of substance abuse 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 were obtained from the university and 308 from the secondary school, bringing the total of students sampled to 698.

Data Collection and Analysis: Data were collected by using an anonymous self-administered questionnaire. Following a pre-test, the final data collected were 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, the University Ethics community, and the local council areas' ethic committee.

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			
	N	%	N	%	Mean	
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	48.4	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

Prevalence of Substance Abuse

Regarding the prevalence of substance abuse, the data collected were carefully rated on a 3-point Likert scale of 1. Always, 2. Sometimes, and 3. Never. This was drawn into a positive and negative table where 'Always and Sometimes' are positive and 'Never' is considered negative. Data obtained showed a prevalence rate of 61.5% for secondary schools and 61.7% for tertiary institutions respectively. Thus, 61.6% shows a prevalence rate of substance abuse in both institutions. The data obtained on the respondents were made to indicate on the questionnaire whether they have ever used any drug other than those required for medical purposes, how many times they have used any drug or substance that is not for medical purposes, use of prescribed drugs more than necessary, abused more than one drug. Table 2.

Table 2: Prevalence rate of substance abuse n = 692

Responses	Secondary		Tertiary		
	N	%	N	%	
Positive	189	61.5	237	61.7	61.3
Negative	119	38.5	143	38.3	38.4

Patterns of Substance Abuse: Frequency of drug use;

The study revealed that 69.1% of respondents had either used drugs two to three times or more not for medical purposes. While 31% of respondents only had used drugs once for non-medical purposes as seen in Table 3.

Table 3: Frequency of substance use n = 692

Ever used drugs for non-medical purposes	Secondary		Tertiary		
	N	%	N	%	
Two to three times or more	215	69.8	262	68.3	69.1
Once	93	30.2	122	31.8	31.0

Patterns of Substance abuse: Frequency of substance abuse in the last month

Data from the study revealed 59.5% abuse of a substance(s) or drug(s) for non-medical use in the last month, while 59.4% and 59.6% frequency for secondary and tertiary institutions respectively as seen in Table 4.

Table 4: Non-medical use of drugs in the last one-month n = 692

	Secondary		Tertiary		
	N	%	N	%	
Positive	168	59.4	229	59.6	59.5
Negative	125	40.6	155	40.4	40.5

Patterns of substance abuse: Age of Onset of Substance Abuse

About the age of onset of drug abuse, data obtained from the study revealed that 59.8% of respondents started abusing drugs when they attained age 18 and above, 30.2% began to abuse drugs and other substances from the age range of 14-17years, while 6.6% began to use drugs and other substances as early as 9years and below. See Table 5 below

Table 5: Age of onset of drug use n = 692

Age	Secondary		Tertiary		
	N	%	N	%	
9 years and below	22	7.1	23	6.0	6.6
10 – 13 years	9	2.6	15	3.9	3.4
14 – 17 years	93	30.2	116	30.2	30.2
18 years and above	184	59.7	230	59.9	59.8

Patterns of substance abuse: Abuse of Multiple Drug(s)/Substance(s)

The study showed 40.4% of respondents abusing more than one substance, 40.9% and 39.8% for secondary and tertiary institutions respectively. Though, 59.6% of respondents never use more than one drug/substance. See Table 6 below.

Table 6: Multiple drug use pattern in the last one-month n = 692

	Secondary		Tertiary		
	N	%	N	%	
Positive	126	40.9	153	39.8	40.4
Negative	182	59.1	232	6.2	59.6

Patterns of substance abuse: Route of Administration

Regarding the route of substance administration, the study revealed that the majority of respondents 73.9% use the oral route for drug administration, followed by 11.6% intramuscular route and 2.1% for sniffing and 7.3% of respondents use all the routes in abusing substances. See table 7.

Table 7: Route of Administration of the Substance of Abuse

Routes	Secondary		Tertiary		
	N	%	N	%	
Oral	221	71.8	292	76.0	73.9
Intramuscular	41	13.3	38	9.9	11.6
Intravenous	9	2.9	8	2.1	2.5
Smoking	9	2.9	9	2.3	2.6
Sniffing	7	2.3	7	1.8	2.1
All of the above	21	6.8	30	7.8	7.3

Patterns of substance abuse: Forms Substances are being abused

Study revealed that 56.2% of drugs/substances are mostly abused in the solid state, 30.1% in the liquid form, and 3.9% in the gaseous form. While 8.8% showed respondents use all forms of abusing drugs. See Table 8 below.

Table 8: Dosage form of drug abuse

Form	Secondary		Tertiary		
	N	%	n	%	
Solid	175	56.8	213	55.5	56.2
Liquid	96	31.2	111	28.9	30.1
Gas	11	3.6	16	4.2	3.9
All of the above	22	7.1	40	10.4	8.8

Hypothesis: There is no significant difference in the prevalence of substance abuse among tertiary and secondary school students; Data showed that responses to the question 'Have you used any drug other than those required for medical purposes' were significantly different among tertiary and secondary school students ($X^2= 693.037$; $df = 6$ $P= 0.00$). Table 9 which is the prevalence of substance abuse stratified by institutions.

Table 9: Chi-square analysis on the Prevalence of substance abuse stratified by institutions

Have you used any drug other than those required for medical purposes	Total	Chi-square (x^2)	DF	p-value
Institutions				
1	12	177	119	308
2	16	221	147	384
Total	28	398	266	692

Chi-square $X^2= 693.037$, $df = 6$, $P = 0.001$

Discussion

This study revealed two-thirds (67.5% & 69.3%) of respondents are predominantly male for both secondary school and the university. Studies showed that males' entry to secondary and tertiary schools is higher than that of females. This is in line with the National Bureau of Statistics (2015), and other reported studies (Eniojukan and Chichi 2014^[12], Atoyebi, and Atoyebi. 2013^[9], Makanjuola *et al.*, 2007^[16], and Adeyemi and Akpotu 2004). This study revealed that the predominant age ranges are 16-18 years which is similar to other reported studies by Adje *et al.*, 2015^[4] (11-20 years). Atoyebi, and Atoyebi. 2013^[9] (16-19 years). This is the period of adolescence and youthful activities start as an individual, exploration of self-potentials and some form of independence from parents and guardians. Sawyer *et al.*, (2018)^[21]. The majority (94.9%) of respondents were single, which is mostly the schooling stage of life and this is similar to other studies conducted by Njoku, and Nekede. (2015)^[18].

Prevalence of substance abuse

The prevalence rate of substance abuse obtained from this study revealed an overall prevalence of 61.6%. This is the very high and alarming rate that possess a danger to the students and the society at large. This is similar to other studies conducted by Idowu *et al.*, (2017)^[13] and Lawoyin *et al.*, (2005)^[15]. With a prevalence of 60.5% and 63.9% respectively However, a much lower prevalence was recorded by Anyanwu *et al.*, (2016)^[18] indicating a prevalence rate of 32.9%. This study revealed that more males abuse substances (68.4%) than their female counterparts (31.6%) which is similar to other studies conducted by (Njoku, 2021; Obadeji *et al.*, 2020)^[17, 22], Idowu *et al.*, (2017)^[1] which gives 71.33%, 57.3%, and 68.8%. Because male children are more adventurous, experimenting with new things, and engaged in so many social and outdoor activities which may have led them to the negative lifestyle of substance use and abuse. According to Akanbi *et al.*, (2015)^[6], the male gender tends to abuse substances for acceptance among friends, to appear bold and strong, and cope with stress. The males are more likely to turn to drugs and drinking because they are more likely to take risks, while the females tend to weigh the risks that come with substance abuse, females are being stigmatized

and males have more accessibility to these substances than their female counterparts. (NIDA, 2020) [23].

The patterns of substance abuse

This study revealed that nearly two-thirds (69.1%) of the respondents have either used drugs two to three times or more for non-medical purposes. Little above average (59.8%) of respondents started abusing drugs/substances when they were 18 years of age and above. This is a high-risk age group for substance abuse among adolescents, which is similar to previous studies conducted by Adeyemo *et al.*, (2016) [2], Anyanwu *et al.*, (2016) [18], and Akanbi *et al.*, (2015) [6]. This is the age where adolescents and young adults abuse drugs/substances to fit in, for competition, to feel good, to feel better, for attention, due to lack of education, for experimentation and addiction. Whereas less than one-third (30.2%) of respondents began to abuse drugs and other substances from 14-17 years old. Less than one-tenth (6.6%) of respondents began to use drugs and other substances as early as 9 years and below this study. This may be due to weak parenting, family member abusing substances in the presence of these kids, and out of curiosity on the part of these kids, which is similar to previous studies conducted by Anyanwu *et al.*, (2016) [18]. This study showed that the majority of the respondents started using drugs in their middle-late adolescents, while still in secondary school. This is consistent with the findings from other studies, Didarloo and Pourali (2016) [11]. This study revealed the frequency of abuse by respondents is on the high side, whereby more than half of the respondents of substance abusers within a one-month period used more than one or more drugs or substances at different times. This may be due to the access, availability, and addictive nature of these drugs or substances. This finding is in agreement with data obtained from other studies conducted by Anyanwu *et al.*, (2016) [18]. There is no significant difference in the prevalence of substance abuse among tertiary and secondary school students.

From the analysis, data showed that there was a significant difference between tertiary and secondary school students in the prevalence of substance abuse. ($p < 0.05$) Thus, the proposed null hypothesis is rejected. While an alternate hypothesis 'there is a significant difference in the prevalence of substance abuse among tertiary and secondary school students' was accepted. This shows the type of institution determines the prevalence rate, which means there is a relationship between the two institutions that makes them dependent.

Conclusion

The study identified a high prevalence of substance abuse among tertiary and secondary school students in Bayelsa State. The male was significantly more in number with substance abuse which is a source of concern. It was also noted that the patterns of substance abuse were abysmal.

Recommendation

Since substance abuse starts during the formative years of youthful age, drug abuse preventive measures need to start much earlier in the student's academic life to achieve desired objectives. 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 high prevalence of substance abuse

among tertiary and secondary school students; 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 put in place for the control and sale of these drugs to students and other users in the populace.

Contribution to literature

This study has demonstrated the association among students of tertiary and secondary school about the prevalence of substance abuse among tertiary and secondary school students in Bayelsa State. Also, this study identified patterns of 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.

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