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ORIGINAL ARTICLE

Prevalence, Pattern and Predictors of Substance abuse among In-School Adolescents in Yenagoa, Bayelsa State.

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ABSTRACT

Background: Harmful use of substances by adolescents is adjudged a global epidemic by the World Health Organization, affecting both the individual and society. This study assessed the prevalence, patterns and predictors of substance abuse among in-school adolescents in Yenagoa Bayelsa State Nigeria

Methods: This descriptive cross-sectional study was conducted in year 2022 among 310 secondary school adolescents, selected through a multistage sampling technique. Data were collected using a semi-structured, self-administered questionnaire adapted from the Global School-based Student Health Survey (GSHS) Core Questionnaire, specifically the 2021 version of the Drug Use Module. Data were analysed using SPSS version 25; level of significance was $p \leq 0.05$ at 95% Confidence Interval. Chi-square and Fisher's exact tests were used to determine the association between categorical variables. Predictors were determined by binary logistic regression.

Result: The mean age of the participants was 15.07 ± 1.573 years. Lifetime substance abuse prevalence was 32.3%, with a 12-month rate of 20.6%, including 13 (4.3%) daily users. The most abused substances were Alcohol 87(90.6%), Marijuana 20(20.5%) and Shisha 18(18.8%) and mean age of initiation was 12.42 ± 2.971 years. Relaxation 23(24.0%) and curiosity 18(18.8%) were the most common reasons provided. Predictors include older adolescents, mother's educational level, from a polygamous setting, negative influences from family members, easy access to drugs and money, and history of sexual abuse ($p < 0.05$).

Conclusion: Substance abuse among in-school adolescents is widespread, with initiation at younger ages. The most abused substances are alcohol, cannabis, and shisha. Prevention should target younger adolescents before they start using these substances.

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INTRODUCTION

The use and misuse of psychoactive substances among adolescents is a growing global concern. This has been declared a global epidemic by the World Health Organisation (WHO), with detrimental and far-reaching adverse implications on both individuals and society at large.¹ Substance abuse refers to the harmful or hazardous use of psychoactive substances. This includes not only illegal drugs but also the misuse of legal substances, such as alcohol and pain medications.²

Adolescence, typically spanning the ages of 10 to 19, is a critical stage characterized by rapid physical, cognitive, and psychosocial development. This phase is characterized by curiosity, piquing and exploration. The use of psychoactive substances during adolescence is concerning, as the developing brain is particularly vulnerable. Early substance use is linked to a higher risk of dependence and related issues later in life. The brain doesn't fully mature until around age 25, and exposure to substances can impair learning, decision-making, and impulse control, making younger individuals more susceptible to the negative effects of substance use.³⁻⁵ The age at which adolescents in low and middle-income countries initiate substance abuse varies, but early initiation has been documented.^{6,7} For instance, the UNODC reported in 2018 that the average age of first substance use was 19 years.⁸ However, some studies have indicated that initiation typically occurs earlier, between the ages of 12 and 14.⁹⁻¹² Substance abuse has been reported to be more prevalent amongst males compared to their female contemporaries.¹³⁻¹⁷ Although some studies, have also noted the rise in the use of psychoactive substances among females.^{18,19} Parents in African populations may influence young people's substance use, as observing a parent drink or a friend smoke can impact

behaviour. This aligns with Social Learning Theory, proposed by Albert Bandura, which suggests that adolescents learn behaviours by observing others, especially those they view as role models, and are more likely to repeat behaviours that receive social approval from peers or parents.²⁰ A nationwide (Nigeria) survey in 2015 showed that alcohol was the most widely used psychoactive legal substance, while cannabis was the most commonly abused illicit drug, and it continues to be the most commonly used illicit substance in the African region.²¹ The highest prevalence and increases in use are reported in West and Central Africa, with usage rates ranging from 5.2% to 13.5%.² The United Nations Office on Drugs and Crime (UNODC) in Nigeria reported that 14.4% of individuals aged 15 to 64 had abused drugs, with an estimated 4.7% of the population using opioids, such as tramadol, codeine, or morphine, for non-medical purposes in the preceding 12 months.⁸ The reported prevalence rate of any substance use among in-school adolescents across Nigeria ranged from 8.3% to 86.8%.^{12,14,22-25} The most commonly abused substances in these studies were alcohol,^{12,14,23-25} tramadol,^{14,24,25} codeine^{22,25}, and cannabis^{23,25}. The consequences of substance use can be devastating. The WHO reported that 2.6 million deaths occur globally due to alcohol consumption, accounting for 4.7% of all deaths, and 0.6 million deaths are attributed to psychoactive drug use annually, while at least 15.3 million persons worldwide have been documented as suffering from drug use disorders.^{2,26} Indulgence in substance abuse among adolescents in school can lead to several deleterious effects impacting their physical, mental, social, and vocational well-being. These effects may include poor academic performance, poor judgement, impaired concentration, truancy, increased expenses, risky sexual behaviour, violence, and involvement in cult

activities. Additionally, adolescents engaging in such behaviours might also face serious mental health issues, including substance addiction, depression, anxiety, schizophrenia, and an

increased risk of self-harm or suicide.^{4,27–29} Furthermore, those who experiment with alcohol and tobacco are at a higher risk of developing illicit drug abuse later in life.¹¹

Table 1a – Socio-demographic Characteristics of Respondents

Variables	Frequency N=301	Percent (%)
Sex		
Male	151	50.2
Female	150	49.8
Age groups		
10 – 14 years	90	29.9
15 – 19 years	211	70.1
Mean age = 15.07 ± 1.570		
Religion		
Christianity	295	98.8
Islam	4	1.3
Neither	2	0.7
Type of School		
Public day school	192	63.8
Public boarding school	71	23.6
Private day school	28	9.3
Private boarding school	10	3.3
Accommodation category		
Boarding /residential	81	26.9
Day /non-residential	220	73.1
Gender Structure of School		
Mixed	106	35.2
Girls only	107	35.5
Boys only	88	29.2
Class		
Junior Secondary	45	15.0
Senior Secondary	256	85.0

Socio-ecological models recognize that substance abuse is not simply an individual problem but is also influenced by various levels of social and environmental context. Individual-level factors like personality traits, low self-esteem, curiosity, and poor coping skills against

stressful life events can influence an individual's vulnerability to substance abuse. Furthermore, relational level factors such as use by family members, peer pressure, inadequate parental supervision, parental education, family disharmony, or poverty play a crucial role in

shaping substance use behaviours. At the institutional level, social media influence, negligence and poor supervision by teachers could promote substance abuse. Community-level factors such as access to resources, socio-economic challenges, and levels of poverty can influence substance abuse.^{14,17,22,23,27,29-37}

Despite the high burden of substance abuse among adolescents, there is limited data on its prevalence and associated factors in Yenagoa, Bayelsa State. This study aimed to fill that gap by determining the prevalence of substance abuse, the age of initiation, describing the patterns, and identifying the predictors of substance use among secondary school students in Yenagoa LGA of Bayelsa State.

Methodology

Study Location and Population:

This descriptive cross-sectional study was conducted between July and November 2022 among 310 junior and senior secondary school students in selected public and private schools in Yenagoa Local Government Area (LGA) of Bayelsa state. The LGA has 192 public secondary schools and over 316 private secondary schools.³⁸

Sample size determination:

A minimum sample size was calculated using the Cochran formula for cross-sectional studies.

$n = z^2 pq / d^2$ ³⁹ where n is the desired sample size. Z is the standard deviation at the 95% confidence interval, which is taken as 1.96; p is prevalence taken as 19.4% (0.194) from the Prevalence of substance abuse from a previous study.¹⁴

q is 1-p, which is 0.806

d is the acceptable margin of error or degree of precision = 0.05. An upward adjustment of 10% to account for non-response and inappropriate entries gave a minimum sample size of 266. However, 310 students were recruited to improve the precision of the study.

Sampling technique:

A multi-stage sampling technique was used to select eligible participants. It involved three stages;

Stage 1: Ten secondary schools (4 public and 6 private) were selected from the list of schools from the State Ministry of Health via simple random sampling by balloting. A proportional allocation method was used to determine how many students to sample from each selected school. This involved dividing each school's total population by the combined total population of all chosen schools, then multiplying that proportion by the overall sample size. **Stage 2:** In the second stage, stratified sampling was conducted based on junior and senior secondary levels. At each school, proportionate-to-size allocation was also implemented to determine the number of participants to be selected from each class; this was achieved by dividing the population of each class by the total population of that school, then multiplying the result by the sample allocated to that school. **Stage 3** involved systematic random sampling to select participants from classes, using the class register as the sampling frame. The sampling interval was calculated by dividing the total students by the sample size. The first participant was chosen via simple random balloting, with subsequent respondents selected using the same interval.

Table 1b – Socio-demographic Characteristics of Respondents.

Live-in Parent/Caregiver		
Both parents	186	61.8
Father alone	18	6.0
Mother alone	36	12.0
Father and stepmother	15	5.0
Mother and stepfather	6	2.0
Family relative	35	11.6
Lived alone or with friends	3	1.0
Family structure		
Monogamous	217	72.1
Polygamous	84	27.9
Fathers' highest educational level		
No formal education	9	3.0
Primary	13	4.3
Secondary	112	37.2
Tertiary	167	55.5
Mothers' highest educational level		
No formal education	17	5.6
Primary	24	8.0
Secondary	113	37.5
Tertiary	147	48.8
Parent/Guardian employment status		
Government employed	137	45.5
Self-employed	88	29.2
Private organization	41	13.6
Others	35	11.6
Type of neighbourhood		
Own house that is fenced	131	43.5
Shared compound (face-me-I face you)	105	34.9
An estate	47	15.6
Waterfront/slum	10	3.3
An uncompleted building	8	2.7

Table 2a: Awareness and Prevalence of Substance Abuse

Variable	Frequency N=301	Percent (%)
Ever heard of substance Abuse.		
Yes	289	96.0
No	12	4.0
Information source*	N =289	
Class teacher	105	36.3
Social media	61	21.1
Family member	60	20.8
Television	57	19.7
Radio	57	19.7
School Health Promotion Programme	57	19.7
Place of worship	22	7.6
Awareness of types of substances*	N =289	
Alcohol	218	75.4
Cigarette	124	42.9
Weed, Ganja (Marijuana, cannabis)	117	40.5
Opioids (e.g. tramadol, codeine morphine, heroin)	81	28.0
Blue ice (Methamphetamine)	58	20.1
Shisha	90	31.1
Over-the-counter drugs Health (analgesic, antibiotics)	45	15.6
Ever abused psychoactive substance		
Yes	96	31.9
No	205	68.1
Substance abuse in the last year	N=96	
Yes	62	64.6
No	34	35.4
Frequency of Substance use	N=62	
Daily	13	4.3
Once in two days	11	3.7
Weekly	5	1.7
Monthly	13	4.3
2-3 Monthly	20	6.6
Not using currently	239	79.4

Data collection measures:

A semi-structured, pre-tested, and facilitated self-administered questionnaire was used to collect data from 310 respondents. The questionnaires were distributed, and the researchers circulated the hall to facilitate the completion process, ensure privacy, encourage independent answers, and provide clarification on any questions as needed.

This questionnaire was adapted from the Drug Use Module section of the Nigerian version of the Global School-based Student Health Survey (GSHS).⁴⁰ It consisted of five sections: socio-demographic characteristics, family structure,

awareness and prevalence, as well as patterns and risk factors for substance abuse.

To assess the reliability of the instrument, a pre-test was conducted among students from a public school in Bayelsa State that was not included in the selected sample. Based on their feedback, the questionnaire was revised, and some questions were rephrased for clarity.

Inclusion Criteria: Students between the ages of 10 - 19 years in junior and senior secondary school who gave their assent/consent to participate in the study and whose school authority permitted were recruited into the study.

Table 2b: Awareness and Prevalence of Substance Abuse

Commonly abused Substance*	N=96	
Alcohol	87	90.6
Weed, Ganja (Marijuana, cannabis)	20	20.8
Shisha	18	18.8
Cigarette	12	12.5
Opioids (e.g. tramadol, codeine, morphine, heroin)	9	9.4
Blue ice (Methamphetamine)	7	7.3
Over-the-counter drugs	6	6.3
First substance ever abused	N= 96	
Alcohol	77	80.2
Blue ice (Methamphetamine)	7	7.3
Weed, Ganja (Marijuana, cannabis)	6	6.3
Shisha	6	6.3
Cigarette	4	4.2
Over-the-counter drugs	2	2.1
Opioids (e.g. tramadol, codeine morphine, heroin)	1	1.0
Average age at initiation		
Mean age	12.07 ± 2.976years	
Median	12 years	
Mode	12 years	
Range	14 (4 – 18)	

**Multiple response*

Data Management:

Data was analysed with SPSS 25. Descriptive statistics summarized categorical and continuous variables like sex, age, and school type. Summary statistics provided prevalence and proportions of substance use. Chi-square and Fisher's exact tests examined associations between substance abuse and socio-demographic factors, identifying risk and protective factors. Variables with significant differences between those who reported substance abuse and those who did not were selected for binary logistic regression analysis. Significance was set at $p \leq 0.05$ with a 95% confidence interval

Ethical clearance:

Ethical approval was obtained from the Bayelsa State Ministry of Education Research Ethics Committee (Ref No – ME/SED/499/VOL.1/10) and written permission was obtained from the various school authorities. Informed assent/consent: Assent was obtained by having the eligible study population tick a consent box

on a hard-copy questionnaire after being explained the study aim on the questionnaire. Consent was obtained from those above 18 years. Additional informed consent and permission were obtained from school representatives of the Parents-Teachers Association.

RESULTS

Of the 310 questionnaires distributed, 301 were completed, resulting in a response rate of 97.1%. As shown in Table 1, students from several secondary schools participated in the study, with an age range of 10 to 19 years; the majority, 211 (70.1%), were aged 15-19 years, with a mean age of 15.07 ± 1.573 years. Most respondents, 151 (50.2%), were male and attended public day schools, 192 (63.8%); and in the senior secondary class, 256 (85.1%). Most 186(61.8%) of the respondents lived with both parents. A significant 217(72.1%) of respondents come from a monogamous family setting, and most respondents' parents have tertiary education

(father: 55.5%, mother: 48.8%). Additionally, most are employed in the government civil service. A vast majority of respondents, 289(96%), are aware of substance abuse. The most common channel of awareness was from their teachers in school, at 105 (36.3%), followed by social media, at 61 (21.1%). The respondents were aware that the following substances could be abused: Alcohol, 289(75.4%); cigarettes, 124(42.9%); marijuana, 117(40.4%). About a third, 96(31.9%) of the respondents have ever abused a psychoactive substance, and amongst those who have ever used drugs, about a fifth, 62(20.6%), have used in the last year, and 13(4.3%) take those substances daily. The most commonly abused substance among the respondents was Alcohol 87(90.6%), marijuana 20(20.8%), Shisha 18(18.8%), and Cigarettes 12(12.5%) amongst others.

The mean age of first use of substance abuse was 12.42 $\pm$ 2.97 years. The most common substance implicated at this initiation was Alcohol 77(80.2%). Table 2

Table 3 reveals that among those who admitted ever using the substance of abuse, the majority of the respondents stated illness, 41(42.7%), relaxation, 23(24.0%), and curiosity, 18(18.8%), as their reasons for substance use. The commonest route of administering was by drinking 86(89.6%), smoking 31(32.3%) and injecting 8(8.3%). Most 51(53.1%) used these substances at home; 23(24.0%) while hanging out with friends 18(18.8%) and at parties. The majority, 52 (54.2%) of respondents, procured these substances by themselves, while 19 (19.8%) obtained them from relatives. The majority, 42 (43.8%), spend approximately NGN 100-200 to procure these substances per use, whereas 20 (20.86%) admitted to getting them free of charge.

The significant factors associated with substance abuse include Older adolescents 15 – 19 years ($\chi^2 = 5.529$; $p = 0.019$); being male ($\chi^2 = 8.577$; $p = 0.003$); attending a Public day school ($\chi^2 = 11.911$; $p = 0.008$); attending boys' only school ($\chi^2 = 16.715$; $p = 0.000$); coming from polygamous homes, ($\chi^2 = 5.965$; $p = 0.015$); having a mother with no formal education ($\chi^2 = 9.893$; $p = 0.015$); and having self-employed parents ($\chi^2 = 7.865$; $p = 0.049$) as shown in table 4.

Not living in a good neighbourhood ($\chi^2 = 3.692$; $p = 0.036$), Exposure to negative influence from family members ($\chi^2 = 13.181$, $p = 0.001$); Easy access to drugs ($\chi^2 = 13.101$, $p = 0.001$); Easy access to money ($\chi^2 = 19.261$, $p = 0.001$); history of sexual abuse ($\chi^2 = 5.296$, $p = 0.028$); were significantly associated with substance abuse among the respondents. (Table 5)

Table 6 shows that the predictors of substance abuse in this study included; Older adolescents (OR = 2.10, $p = 0.038$, 95%CI = 1.04–3.44), exposure to negative family influence (OR = 5.70, $p = 0.001$, 95%CI = 2.34–13.87), having easy access to drugs (OR = 11.69, $p = 0.003$, 95%CI = 2.27–60.24), and money (OR = 5.47, $p = 0.001$, 95%CI = 2.74–10.92), and exposure to sexual abuse (OR = 4.67, $p = 0.030$, 95%CI = 1.17–18.73), all significantly increased the odds for substances abuse among the respondents.

Attending a private boarding school (OR = 0.278, 95%, $p = 0.022$, CI = 0.093–0.833), attending a girls-only school (OR = 0.319, $p = 0.000$, 95%CI = 0.173–0.589), and being female (OR = 0.004, $p = 0.004$, 95%CI = 0.29–0.79), were protective against harmful substance use.

Table 3: Patterns of Substance Abuse

Variable	Frequency N=96	Percentage (%)
Reason for onset Substance use*		
Illness	41	42.7
Relaxation	23	24.0
Curiosity	18	18.8
Stressful life events	16	16.7
To gain confidence	15	15.6
Peer Pressure	12	12.5
Family Problem	6	6.3
Poverty	4	4.2
Social media influence	6	6.3
Mode of intake of substance*		
Drinking	86	89.6
Smoking	31	32.3
Sniffing	4	4.2
Injecting	8	8.3
Patches	2	2.1
Occasions of Substance use*		
At home	51	53.1
When hanging out with my friends	23	24.0
At parties	18	18.8
Before doing sports	13	13.5
Before sex	6	6.3
On the street	5	5.2
Before exams	4	4.2
Source of substance*		
I buy them	52	54.2
From friends	16	16.7
I get them from my relatives	19	19.8
They distribute them at parties	14	14.6
Amount spent to obtain substance per use*		
Obtained at no cost free of charge	20	20.8
₦100 -₦200	42	43.8
₦300- ₦500	7	7.3
₦600-₦1000	14	14.6
Above 1₦000	13	13.5

**Multiple responses possible*

Table 4: Socio-demographic Characteristics Associated with Substance Use

Variable	Substance Abuse		χ^2	P Value
	Yes n (%)	No n (%)		
Age (years)				
10 – 14	20 (22.2)	70 (77.8)	5.529	0.019*
15 – 19	76 (36.0)	135 (64.0)		
Sex				
Male	60 (39.7)	91 (60.3)	8.577	0.003*
Female	36 (24.0)	114 (76.0)		
School Type				
Public Boarding	20 (28.2)	51 (71.8)	11.911	0.008*
Public day	72 (37.5)	120 (62.5)		
Private Boarding	0 (0.0)	10 (100.0)		
Private day	4 (14.3)	25 (85.7)		
Gender structure of School				
Boys and Girls	28 (26.4)	78 (73.6)	16.715	0.000*
Boys only	43 (48.9)	45 (51.1)		
Girls only	25 (23.4)	82 (76.6)		
Class				
Junior Secondary	18 (40.0)	27 (60.0)	1.601	0.206
Senior Secondary	78 (30.5)	178 (69.5)		
Family Structure				
Monogamy	60 (27.8)	156 (72.2)	5.965	0.015*
Polygamy	36 (42.4)	49 (57.6)		
Father's educational level				
No formal Education	2 (22.2)	7 (77.8)	1.441	0.696
Primary School	4 (30.8)	9 (69.2)		
Secondary School	40 (35.7)	72 (64.3)		
Tertiary School	50 (29.9)	117 (70.1)		
Mother's educational level				
No formal Education	10 (58.8)	7 (41.2)	9.893	0.019*
Primary School	3 (12.5)	21 (87.5)		
Secondary School	37 (32.7)	76 (67.3)		
Tertiary School	46 (31.3)	101 (68.7)		
Parent/Guardian employment status				
Government employed	44 (32.1)	93 (67.9)	7.865	0.049*
Self employed	36 (40.9)	52 (59.1)		
Private sector	10 (24.4)	31 (75.6)		
Others	6 (17.1)	29 (82.9)		
Type of house				
Estate	9 (19.1)	38 (80.9)	7.235	0.124
Own House with fence	5 (50.0)	5 (50.0)		
Shared compound	38 (36.2)	67 (63.8)		
Waterfront/slum	40 (30.5)	90 (69.5)		
Uncompleted Building	4 (50.0)	4 (50.0)		

*Statistically significant

DISCUSSION

This study has shown that substance abuse is both practiced and still prevalent among in-school adolescents in Bayelsa State, as

indicated by the previous year's data. This trend is concerning because it highlights the use of psychoactive substances at a critical age when adolescents' brains are still developing. Such substance use has been linked to increased

crime, decreased productivity, and delinquent behaviours.

In 2018, the UNODC reported that the average age for initiating substance use was 19 years. However, this study found an average age of 12.07 ± 2.976 years, which is significantly earlier than the previously reported age. Other studies have also indicated that initiation often occurs at or before the age of 14.⁹⁻¹² This reinforces previous reports indicating that adolescents in low- and middle-income countries typically begin using substances between the ages of 12 and 14. Additionally, the study showed that substance abuse was more prevalent among males, consistent with the findings from the UNODC's 2018 report. Conversely, studies conducted in Gombe and Enugu states observed a rising trend of substance use and abuse among females. The prevalence of substance use among the study participants obtained from this study is 31.9%. This is notable, reflecting that about 1 in 3 adolescents studied have been involved in the use of psychoactive substances. This finding is comparable to previous studies done in the South East (Abakaliki) and North Central (Ilorin) that obtained a prevalence of 32.9%¹² and 33.7%²⁴ respectively, but varied widely from studies done in the Southwest (Lagos) and South-south (Sapele) that revealed a prevalence of 8.3%²² and 19.37%¹⁴ respectively. This may be due to differences in the study population and sampling technique; additionally, the data collection tools may have varied, resulting in different interpretations of various questions. However, this could also indicate a rising trend of substance abuse among adolescents. Among those who used the substances, some reported using them daily; one can easily understand the financial and health implications of this habit on its users. These consequences may explain why some young people resort to criminal activities

such as extortion, robbery, fraud, banditry, and cybercrimes, commonly referred to as "Yahoo Yahoo," to maintain their lifestyle. The most used substance reported in this study was alcohol, followed by marijuana and shisha. These findings align with the UNODC 2018 report. Numerous studies^{12,14,24,25} have identified alcohol as the most abused psychoactive substance among adolescents. This trend can be predominantly ascribed to the ease of access to alcohol, which is often obtainable with minimal to no restrictions. It is readily accessible in retail outlets, available at fixed prices, and generally not restricted by age.

Furthermore, alcohol is commonly perceived as a social beverage, frequently found in homes and served at various social events. Culturally, it is accepted in many social interactions and ceremonies, which contributes to its widespread availability. The introduction of affordable alcohol sold in sachets may also play a significant role in its usage, as it can be priced comparably to or even cheaper than a sachet of milk. This raises concerns about how the affordability of psychoactive substances has made them a competitor with nutritious food options. This trend is particularly alarming for the intellectual future of those who begin using alcohol as early as four years old. Marijuana, an illicit drug, ranked the second most used substance in this study. This could be due in part to its growing acceptance as a social substance, with increasing calls for legalization in some regions.⁴¹⁻⁴³ The World Health Organization's African region has reported that marijuana is the most prevalent illicit substance of abuse. Regardless of the legality or illegality of the drugs, adolescents are still minors, and there should be regulations in place to limit their access to psychoactive substances. The commonest reason given by these participants for substance use and abuse was illness,

relaxation, curiosity and peer pressure, which is in keeping with other reported studies and speaks to the stage of adolescence, who are

developing and discovering the world around them and thus want to experiment with their environment and please their peers.

Table 5: Psychosocial Factors Associated with Substance Abuse

Variable	Substance Abuse N=96		χ^2	p-Value
	Yes n (%)	No n (%)		
Good parental relationship				
Yes	72 (32.3)	151 (67.7)	0.061	0.805
No	24 (30.8)	54 (69.2)		
Parental Monitoring				
Yes	36 (28.2)	96 (71.8)	2.311	0.128
No	60 (35.5)	109 (64.5)		
Good family bonds				
Yes	45 (30.6)	102 (69.4)	0.217	0.641
No	51 (34.4)	103 (65.6)		
Access to religious teaching				
Yes	36 (29.4)	90 (70.6)	1.101	0.294
No	60 (34.3)	115 (65.7)		
Good peer influence				
Yes	20 (25.0)	60 (75.0)	2.661	0.106
No	74 (34.4)	145 (65.6)		
Good neighbourhood				
Yes	21 (23.9)	68 (76.1)	3.692	0.036*
No	75 (35.2)	138 (64.8)		
Disharmony in the home				
Yes	20 (37.0)	34 (63.0)	0.801	0.371
No	76 (30.8)	171 (69.2)		
Negative influence from family members				
Yes	17 (57.7)	10 (37.0)	13.181	0.000*
No	79 (28.8)	195 (71.2)		
Easy Access to substance				
Yes	9 (81.8)	2.(18.2)	13.101	0.001*
No	87 (30.0)	203 (70.0)		
Easy access to money				
Yes	30 (57.7)	22 (42.3)	19.261	0.000*
No	66 (27.0)	183 (73.0)		
Experienced Sexual Abuse				
Yes	7 (63.6)	4 (36.4)	5.296	0.028*
No	89 (30.7)	201 (69.3)		
Bulling from peers and others				
Yes	13 (33.3)	26 (66.7)	0.043	0.836
No	83 (31.7)	179 (68.3)		

**Statistically significant*

Substance abuse was statistically associated with being male, and being in a boys' only school. This study reported a statistical association of substance abuse with being males, this was also corroborated with an association with being in a boys-only school, this is similar with other reports¹³ that have substance abuse among the male gender both within and outside Nigeria. But some other studies have also found an increasing trend of substance use and abuse among females, especially in secondary schools.^{18,19} This picture reflects our concern about losing our African traditions to Western culture and way of life, as against our tradition, where it was not culturally acceptable for females to consume alcohol or other psychoactive substances; this practice was rather protective for the female gender.

Growing up in a polygamous household marked by disharmony, along with having a mother with no formal education, were significant factors contributing to substance abuse among the study participants. These findings align with previous research, which has shown a strong link between family structure and negative influences on substance abuse. A mother's level of education greatly impacts a child's risk of exposure to substance use. Generally, higher education leads to better parenting practices and a more stable home environment, resulting in a lower risk of substance abuse for children. In contrast, children of mothers with lower education levels may be at a heightened risk due to challenges in receiving adequate support and guidance regarding substance use. Adolescents who were exposed to disharmony in the home, negative influence from family members, had easy access to drugs and money and had early exposure to sexual abuse were also more likely to indulge in substance use and abuse. Substance abuse may serve as a coping mechanism for the

psychological trauma associated with these environments.

Strengths and Limitations

These data were collected from only one LGA out of the eight LGAs in Bayelsa State. They may not fully represent the entire state, as Yenagoa is the only urban local government area (LGA) in Bayelsa. Additionally, the generalizability of this study was enhanced by collecting data from a diverse range of schools, including boarding, day, mixed-gender, boys-only, and girls-only schools. However, we lacked a scientific method to verify the accuracy of the information about substance abuse provided to us by the participants. Although we attempted to address this by allowing each participant to complete the questionnaires in private and offering assistance when requested, we assured them that their responses would remain confidential. To further reassure the students about the protection of their privacy, no names were included on the questionnaires.

Conclusion and Recommendation

Substance use is common among adolescents attending school in Bayelsa State; alcohol, cannabis, and shisha are the most frequently abused substances. Factors associated with this include the mother's educational level, the type of school, and family dynamics. The age at which substance use begins is significantly younger than what previous studies have reported. These substances are primarily used for relaxation at home and during social interactions with friends. Therefore, targeted campaigns against substance abuse aimed at younger adolescents in educational institutions should be promoted. Advocacy for policies that support the education of girls is essential. The transition from harmful substance use to substance use disorders and other long-term consequences can be prevented if the insights

from this study are leveraged to engage parents and teachers in proactive vigilance and disapproval. Treatment programs that address social learning factors, such as peer influence, are crucial for lowering relapse rates. There is a

need for qualitative studies to further investigate the perceptions, attitudes, drivers, and facilitators of substance abuse within this population.

Table 6: Predictors of Substance Abuse among Respondents

Variable	Odd ratio	95% confidence interval	p-value
Age in group			
10-14	2.10	1.04 – 3.44	0.038*
15-19			
Sex			
Female	0.004	0.29 – 0.79	0.004*
Male			
School type			
Private boarding school	0.278	0.093 – 0.833	0.022*
Gender structure			
Girls only	0.319	0.173- 0.589	0.000*
Family Structure			
Polygamous setting	1.910	1.132 -3.223	0.015*
Negative Family influence			
Yes	5.70	2.34 -13.87	0.001*
No			
Easy access to drugs			
Yes	11.69	2.27 – 60.24	0.003*
No			
Easy access to money			
Yes	5.47	2.74 – 10.92	0.001*
No			
Exposed to sexual abuse			
Yes	4.67	1.17 – 18.73	0.030*
No		1	

**Statistically Significant*

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Author contributions

All authors have accepted responsibility for the entire content of this manuscript and approved its submission. OIO conceptualized the study.

All authors participated in the study design and coordinated data collection. KID and OFE drafted the initial manuscript. OIO performed statistical analysis and interpreted the data. OIO and KID drafted the final manuscript. OFE and UIM critically reviewed and edited the manuscript for correctness. All authors read and approved the final manuscript.

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