



Original

Investigating Substance Abuse in Vulnerable Nigerian Youth: A Cross-Sectional Study of Out-of-School Adolescents

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Abstract

Background: Substance abuse poses significant health, psychological, and economic costs on society, with a particularly high prevalence among youth in both developing and developed nations. Adolescents who leave school prematurely are at an increased risk of substance abuse. We sought to investigate the pattern of substance abuse in out-of-school adolescents in Anambra state.

Method: The study utilized a community-based, descriptive cross-sectional survey design to assess substance abuse among out-of-school adolescents in the targeted area. A total of 280 adolescents participated, selected through a snowball sampling technique. Data collection was conducted using pre-tested semi-structured questionnaires administered both by interviewers and through self-reporting. The collected data was cleaned, coded, processed, and analysed using SPSS version 25.

Result: The prevalence of substance abuse among out of school adolescents in Awka South LGA was 58.2%. Alcohol, with a rate of 28.9% was the most abused substance among the adolescents surveyed.

Conclusion: Substance abuse remains a critical issue among youth, particularly among out-of-school adolescents. To address this concern, healthcare stakeholders should launch targeted sensitization and awareness campaigns aimed at educating youth about the dangers of substance abuse.

Keywords: Knowledge, Attitude, Practice, Substance Abuse, Out-of-School Adolescents



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Introduction

Substance abuse, characterized by the harmful and hazardous use of psychoactive substances, persists as a grave global public health concern.^{1,2,3} The World Health Organization (WHO) defines it as the misuse of substances like alcohol and illicit drugs, which exert addictive properties and deleterious impacts on the brain's reward centers.¹ The consequences manifest in various forms, including alcohol consumption, drug misuse, and smoking.^{2,3}

The detrimental impact of substance abuse on individuals and society cannot be overstated. It contributes a significant burden to global disease indices, accounting for 5.4%.¹ Furthermore, the use of tobacco and dependence on psychoactive substances, including alcohol, drugs, and tobacco, collectively contribute 3.7% to the global burden of disease.¹ These consequences transcend health ramifications, permeating families, communities, and economies, thereby disrupting the very fabric of society. Furthermore, failure to address this issue poses grave risks to the nation's human capital and socioeconomic development.

Alarming, this insidious epidemic finds fertile ground among adolescents, a demographic already grappling with the tumultuous challenges of a critical developmental stage spanning 10 to 19 years.^{9,10} A substantial body of research has elucidated a disconcerting association between elevated high school dropout rates among adolescents and heightened risks of engaging in substance abuse.⁴⁻⁶ Adolescents who prematurely discontinue their education face increased vulnerability to nicotine, alcohol, cannabis, and other illicit drugs. Moreover, studies have demonstrated that weak school attachment and truancy, characterized by intentional and unjustified absence from compulsory education, augment the likelihood of substance use initiation among at-risk adolescents residing in urban environs.^{7,8}

This period is marked by a heightened propensity for risk-taking behaviours and self-exploration, rendering adolescents particularly susceptible to the allure of substance experimentation, driven by cognitive immaturity and social influences.^{9,10} Their vulnerability underscores the pressing need to comprehend the knowledge, attitudes, and practices surrounding substance abuse, specifically among Nigeria's out-of-school adolescents, a population at the precipice of personal and societal peril.

While previous research has investigated substance abuse among Nigerian adolescents, a significant

knowledge gap persists concerning the out-of-school population.^{8,11-16} This study endeavours to address this lacuna by investigating the prevalence and practices of substance abuse among this specific cohort. The findings will yield invaluable insights to inform targeted health interventions, enhance awareness campaigns, facilitate evidence-based policymaking, and support the development of educational materials tailored to this demographic. Addressing substance abuse among Nigeria's vulnerable out-of-school adolescent population is an imperative that cannot be understated, as it is intrinsically linked to the well-being of individuals, families, and society.

Method

Study Area

The study was conducted in South-East Nigeria, specifically within the Awka South Local Government Area of Anambra State. Data collection sites encompassed the Eke Awka market, Nkwo Amaenyi market, and several small villages, including Umuogbunu, Umukwa, Umuogwali, Umuogbu, Amaenyi, and Amikwo.

Study Design

The research employed a community-based, descriptive cross-sectional survey design.

Study Population

The study population comprised out-of-school adolescents residing in the Awka South Local Government Area of Anambra State. These were youths aged between 10 and 19 years who, due to various circumstances, were unable to complete their secondary education or obtain an equivalent certificate and/or pass the requisite examinations.

Inclusion Criteria

The inclusion criteria encompassed all out-of-school adolescents within the Awka South Local Government Area.

Exclusion Criteria

Out-of-school adolescents who did not wish to participate in the study were excluded.

Explanation of Substances

Cocaine and Crack: Respondents were also informed about the differences between cocaine and crack. Cocaine is the powdered form of the drug, typically snorted or injected. In contrast, crack is a crystallized form of cocaine that is usually smoked. This distinction was explained to help respondents correctly identify and

report their substance use, ensuring the data collected was precise.

Sample Size Determination

The sample size was calculated using the Cochran formula;

$$n = Z^2(Pq)/d^2$$

Where P = prevalence of substance abuse Using (20.3%)³⁷ = 0.203

Z = the standard normal deviation; 1.96 i.e 95% confidence level.

d = the margin of sampling error/precision/level of accuracy i.e 5 % = 0.05.

$$q = 1 - P = 1 - 0.203 = 0.797.$$

$$\text{Hence, } n = 1.96^2 * 0.203 * 0.797 / 0.05^2 = 0.6215 / 0.0025 = 248.6145$$

$$n = 248.6$$

Non-response

Anticipating a non-response rate of 10% the calculation was calculated using $n_f / (1-f)$

$$\text{Where } f = \text{non-response rate} = 10\% = 0.1$$

$$248.6 / (1 - 0.1) = 248.6 / 0.9 = 276.2 \approx 280$$

Sampling Technique

A snowball sampling technique was employed to effectively reach the hard-to-access population of out-of-school adolescents. Initial willing participants were recruited and then utilized their social networks to identify additional individuals meeting the selection criteria. This approach was chosen due to its practicality in accessing a hidden population, despite its limitations in potentially introducing selection bias and limiting the generalizability of the findings.

Study Instruments

Data were collected using a pre-tested, semi-structured, interviewer-administered questionnaire, meticulously developed and validated to ensure reliability and accuracy. The questionnaire was structured according to the specific objectives of the study. It comprised five sections: Section A contained socio-demographic data of the respondents; Section B depicted the prevalence of substance abuse among out-of-school adolescents in the Awka South Local Government Area; Section C comprised knowledge, attitudes, and practices related to substance abuse; Section D consisted of commonly abused substances; and Section E encompassed factors influencing substance abuse. The operationalization of key dependent variables included measuring the frequency and types of substances abused, knowledge about substance abuse, attitudes towards substance use, and the practices and influencing factors associated with substance abuse. The questionnaire was administered

after obtaining informed consent from participants and adhering to the inclusion criteria, ensuring ethical standards were maintained.

Statistical Analysis

The data were cleaned, coded, processed, and analysed using SPSS version 25. Descriptive statistics were employed to describe socio-demographic variables, utilizing percentages and proportions for categorical variables and means and standard deviations for continuous variables. Pictorial representations included pie charts or bar charts for categorical variables and histograms, scatter diagrams, or scatter plots for continuous variables. The association between categorical variables was assessed using chi-square or Fisher's exact tests. Student's t-test was used to summarize the association of mean differences. A p-value of ≤ 0.05 with a 95% confidence level was considered statistically significant.

Ethical Considerations

Ethical approval for this study was granted by the Ethics Committee of Nnamdi Azikiwe University Teaching Hospital, Nnewi, with the reference number NAUTH/CS/66/VOL.14/VER.3/112/2021/082, issued on 22nd July 2021. The study adhered to all institutional guidelines and regulations, ensuring the protection of participants' rights and welfare throughout the research process.

Results

Socio-demographic profile of respondents

The study involved 280 respondents, the majority (21.8%) being 18 years of age, followed by 20.0% aged 17 years, 15.0% aged 19 years, and 14.3% aged 16 years. The sample comprised a higher proportion of males (65.4%) compared to females (34.6%). The ethnic composition was predominantly Igbo (91.1%), with 47.5% being secondary school dropouts, 28.9% primary school dropouts, and 23.6% having no formal education. The majority of respondents (95.7%) identified as Christian. (Table 1)

Table 1: Socio-Demographic Profile of Respondents

Characteristics	Freq N=280	Percent (%)
Gender		
Male	183	65.4
Female	97	34.6
Age (Years)		
10	3	1.1
11	6	2.1
12	10	3.6
13	15	5.4
14	20	7.1
15	27	9.6

Characteristics	Freq N=280	Percent (%)
16	40	14.3
17	56	20.0
18	61	21.8
19	42	15.0
Tribe		
Igbo	255	91.1
Yoruba	11	3.9
Hausa	12	4.3
Others	2	0.7
Level of Education		
No Formal Education	66	23.6
Primary School	81	28.9
Secondary School	133	47.5
Religion		
Christianity	268	95.7
Islam	11	3.9
Traditional	1	0.4

Prevalence of substance abuse among respondents

An assessment of substance abuse prevalence revealed that alcohol (28.9%) was the most commonly abused substance, followed by cigarettes (22.3%), marijuana (22.9%), and tramadol (11.0%). Notably, 58.2% of respondents acknowledged substance use at some point, with 51.1% reporting active usage. Temporal patterns indicated 31.1% engaging in substance abuse for one year, 12.9% for two years, and 7.1% for six months, with no instances surpassing five years. Peer influence emerged as the most significant factor (61.7%), followed by relatives (15.8%), parents (7.5%), and media (14.2%).

Table 2: Prevalence of Substance Abuse among Respondents

Variable	Freq (N)	Percent (%)
Substance Use		
Yes	163	58.2
No	117	41.8
Substances Taken by Participants		
Alcohol	138	84.7
Cigarette	30	18.4
Heroin	5	3.1
Cigar	2	1.2
Marijuana/Indian hemp	44	22.9
Morphine	0	0.0
Benzodiazepine	0	0.0
Tramadol	25	15.3

Table 3: Assessment of Knowledge of Substance Abuse Among Respondents

Variable/Category	Freq (N)	Percent (%)
Awareness of Substance Abuse		

Variable	Freq (N)	Percent (%)
Codeine	4	2.5
LSD	0	0.0
Crack	0	0.0
Cough Syrup	7	4.3
Coffee	10	6.1
Cocaine	0	0.0
Amphetamine	0	0.0
Viagra	2	1.2
Duration of Substance Use		
6 Months	20	7.1
1 Year	87	31.1
2 Years	36	12.9
3 Years	10	3.6
4 Years	10	3.6
More than 5 years	0	0.0
Current Substance Use		
Yes	143	51.1
No	20	7.1
Frequency of Substance Use		
Occasionally	35	12.5
Once a day	18	6.4
More than once a day	19	6.8
Once a week	44	15.7
More than once a week	27	9.7
I don't use substance now	20	7.1

*Multiple choice answers

Knowledge of Substance Abuse

An evaluation of substance abuse knowledge among the out-of-school adolescents in Awka South Local Government Area revealed that 93.2% claimed recognition of the issue. A substantial 29.9% correctly identified substance abuse as involving harmful agents impacting the brain with addictive potential. Additionally, 46.3% associated it with intoxicating drugs, while 21.6% linked it to stress relief, acknowledging its addictive nature. Conversely, 2.2% recognized the harm but dismissed the brain effects. Among specific substances, respondents most prominently recognized alcohol (15.4%), cigarettes (14.2%), Indian hemp (11.4%), marijuana (11.0%), and tramadol (10.2%). (Table 3).



Variable/Category	Freq (N)	Percent (%)
Yes	261	93.2
No	19	6.8
Definition of Substance Abuse		
Harmful or hazardous substance that affects the brain and has tendencies to cause addiction	122	46.7
Harmful substances but have no effect on health	9	3.4
Drugs that help when you are stressed out and cause addiction	88	33.7
Drugs taken to get high	189	72.4
Substances Identified by Participants*		
Alcohol	237	84.6
Cigarette	83	29.6
Heroin	190	67.9
Marijuana/Indian Hemp	68	24.3
Cigar	24	8.6
Morphine	6	2.1
Benzodiazepine	170	60.7
Tramadol	97	34.6
Codeine	4	1.4
LSD	21	7.5
Crack	50	17.9
Cough Syrup	86	30.7
Coffee	117	41.8
Cocaine	4	1.4
Amphetamine	71	25.4
Viagra	2	0.7

Attitude Towards Substance Abuse

Figure 1 illustrated the attitudes towards substance abuse among the out-of-school adolescents in Awka South Local Government Area, Anambra. A sizeable proportion (40.4%) associated alcoholism with a lack of willpower. Furthermore, 32.9% held the belief that assistance for substance abuse is only viable after reaching rock bottom, contrasting with 49.5% who disagreed with this notion. Alarming, 55.7% agreed that heroin addiction leaves no room for recovery, while 28.5% disagreed with this perception. Encouragingly, 56.8% advocated for specialist treatment for alcohol and drug abusers, as opposed to 18.9% who did not support this approach.

Opinions were divided on whether smoking leads to marijuana use and subsequently harder drugs, with 72.9% agreeing and 20% disagreeing with this progression. Long-term outpatient treatment found favour with 55.3% of respondents, while 12.9% did not support this approach. A significant majority (67.1%) advocated for lifelong abstinence in the treatment of alcoholism, in contrast with 14.6% who did not endorse this approach. The notion that substance addiction is treatable resonated with 79.3% of respondents, while 8.6% dissented. Group therapy's significance garnered consensus from 64.6%, yet 13.6% disagreed with its importance

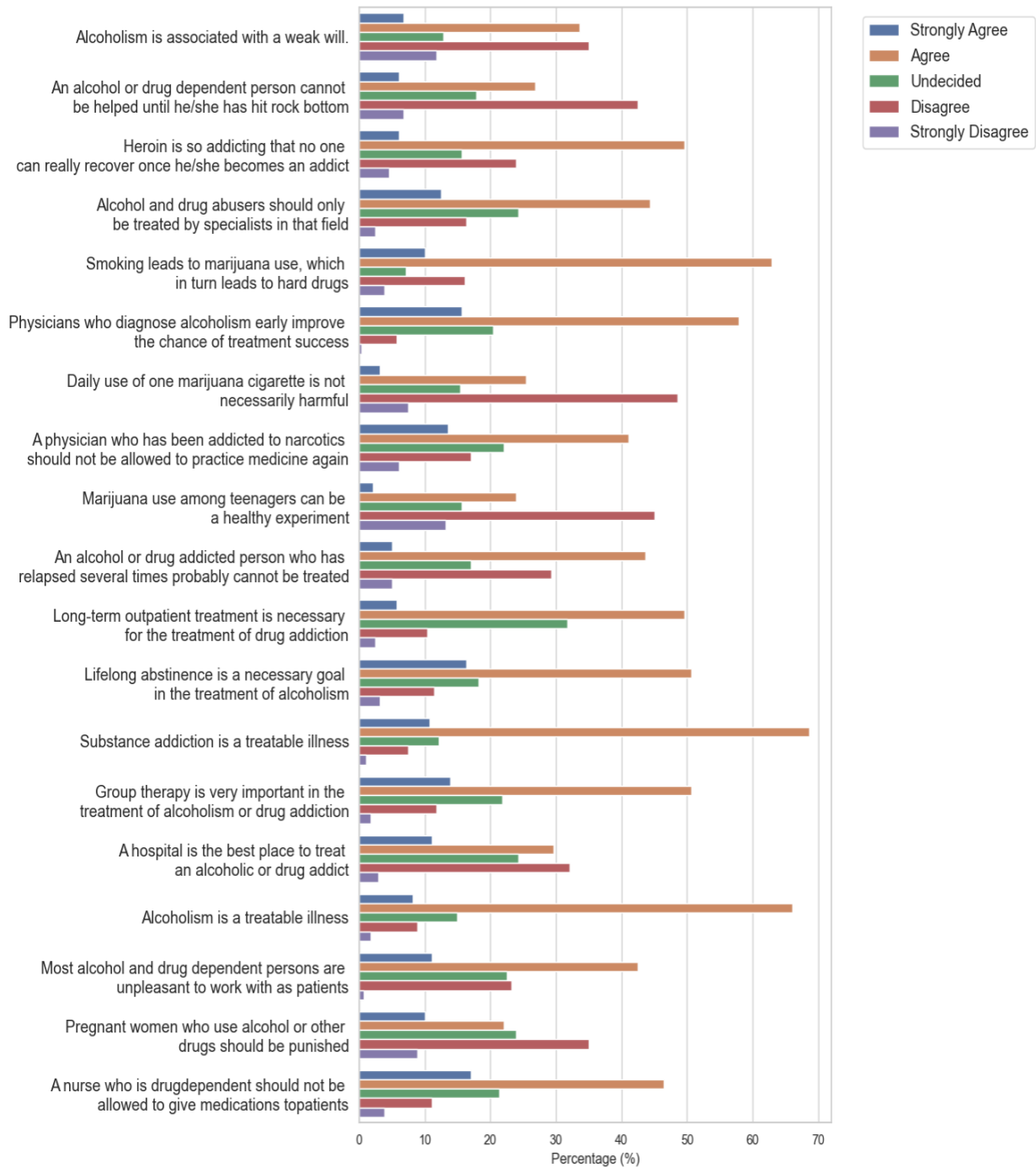


Figure 1: Understanding Substance Abuse among Out-of-School Adolescents

Practice of Substance Abuse

An examination of substance abuse practices among the 280 participants revealed that 39.6% acknowledged misusing substances intended for medical purposes,

while 57.1% engaged in the abuse of prescription drugs. Notably, 26.8% reported the simultaneous abuse of multiple substances. Despite this, 91.1% believed they could function without the substance, while 23.9%

experienced feelings of guilt after consumption. Additionally, 27.5% encountered trouble or complications due to substance use, with 32.5% admitting involvement in fights under the influence. (Figure 2)

Engagement in illegal activities due to substance abuse was reported by 32.5% of respondents, while 27.9% acknowledged family complaints related to their

substance use. A minimal 1.4% faced legal consequences, having been arrested for possession. Notably, 31.8% attempted cessation, with 32.1% experiencing withdrawal symptoms upon trying to quit or facing supply shortages. A small proportion (2.1%) required hospitalization due to substance abuse, while 9.3% sought external help. Involvement in rehabilitation programs was reported by 1.8% of respondents. (Figure 2)

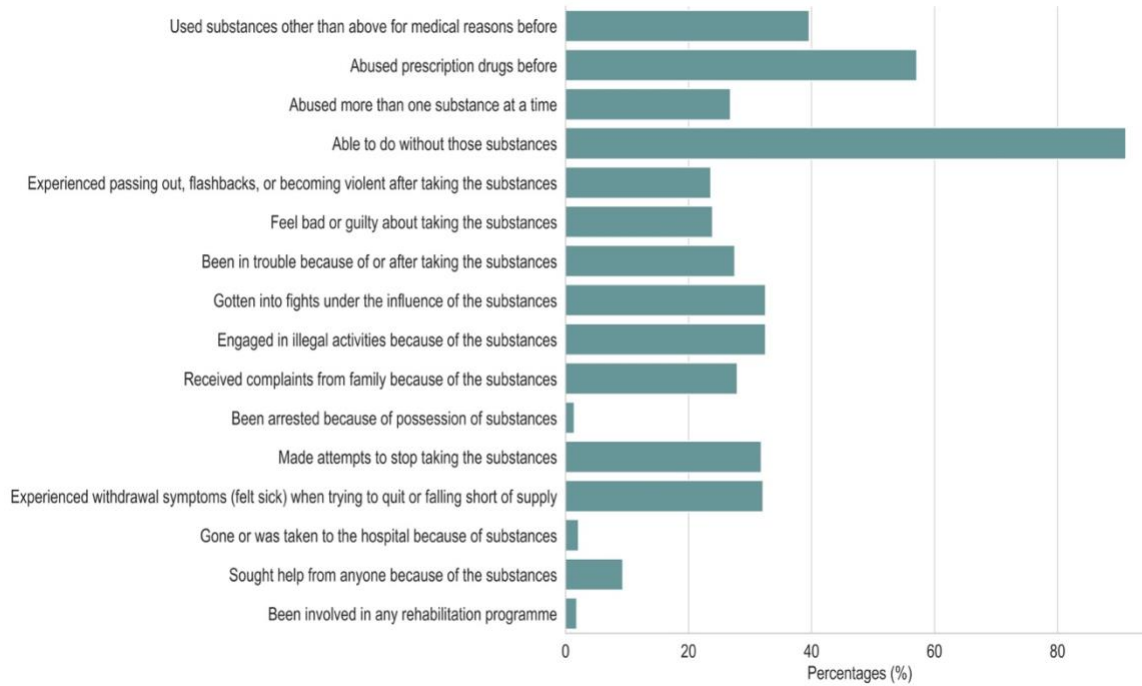


Figure 2: Assessment of Substance Use Behaviours and Consequences in the Study Population

Discussion

The study highlighted a significant prevalence of substance abuse among out-of-school adolescents with a rate of 58.2%. Alcohol stood out as the most commonly abused substance accounting for 28.9% of the cases, followed by cigarettes (22.3%), and marijuana/Indian hemp (22.9%). The increased prevalence of alcohol consumption could be attributed to its social acceptance, accessibility, availability, and affordability. This observation corroborates the findings of Anyanwu et al.¹¹ conducted in Abakaliki, which reported a similar prevalence of 32.1% among secondary school students. Congruently, a study in Lagos state found a 29.1% prevalence of alcohol abuse among secondary school students.¹⁴ However, our findings are lower than those reported by Adekeye et al.¹² in

2015, which indicated an alcohol consumption rate of 85% in Nigeria.

Comparatively, substance abuse trends exhibit variations across African countries. For instance, Tarig et al.¹³ in 2016 identified tobacco as the most abused substance among students in Sudan, likely due to the legal prohibition of alcohol in that country. The heightened awareness and usage observed among respondents might be ascribed to easy accessibility and consistent advertisement through social media and roadside billboards. A pertinent example is the inclusion of the message "all smokers are liable to die young" in cigarette advertisements by the Federal Ministry of Health. These findings underscore a concerning trend of indiscriminate substance involvement among young individuals, often overlooking the significant

economic, social, and psychological repercussions of such behaviour.

A substantial 93.2% of respondents professed awareness of substance abuse, with approximately 29.9% correctly identifying it as a harmful substance affecting the brain and potentially leading to addiction, contrasting with the majority (70.1%) holding a divergent view. In contrast, a study conducted in Kosofe Local Government Area, Lagos, found that over half of respondents (52.9%) correctly identified substance abuse as harmful.¹⁴ In a separate study in Oyo state, 26.3% of respondents met the criteria for defining substance abuse.¹⁵ The predominant source of knowledge in this study was friends (36.6%), followed by media (29.7%), parents (15.5%), school (9.5%), and relatives (8.8%). In contrast, a study in Tanta city revealed that around 65.02% of college students received information about drug abuse dangers primarily through various media, while 30.54% and 21.18% learned from professors and subjects at school, and family contributed 28.08%.¹⁶ This diverges from the findings in our area of study, indicating higher media awareness among college students and the impact of professors on substance abuse awareness. When queried about substances commonly abused for acquaintances, the highest prevalence was for alcohol (21.5%), followed by cigarettes (16.9%), marijuana (12.8%), Indian hemp (12.0%), and tramadol (10.6%). A study in Barbados indicated cocaine and marijuana as the most commonly abused illicit drugs, and drug abuse was linked to 31% of psychiatric hospital admissions.¹⁷ In the United States, adolescents primarily used alcohol, cannabis, and tobacco, with marijuana emerging as a common choice among US high-school students, with over 50% having tried it.¹⁸ Canada reported notable marijuana use, with 15.9% of Ontario high school students having used it.¹⁹ In a recent systematic review conducted in Nigeria on the epidemiological findings on drug abuse, a prevalence of 20-40% among students and youths was highlighted, with commonly abused drugs including cannabis, cocaine, and tramadol. Poor socioeconomic factors and low education were identified as associated risk factors.²⁰ Furthermore, despite existing drug laws and policies, the burden remains high, emphasizing the need for community, government, and religious involvement to target prevention strategies, particularly among youths, students, and identified sources of drugs.

Implications of this findings

The findings from this study highlight several critical implications for addressing substance abuse among out-of-school adolescents in Nigeria. Firstly, the high prevalence of substance abuse, particularly alcohol, underscores the urgent need for targeted intervention programs that focus on education and prevention tailored specifically to this vulnerable group. Secondly, the significant role of peer influence in driving substance abuse suggests that intervention strategies should include peer education and support networks, with recovered adolescents serving as mentors to foster positive behavioural change. Lastly, the findings indicate a need for comprehensive policy measures and community engagement to combat substance abuse. This involves regulating the availability and advertisement of addictive substances and actively involving community leaders, parents, and educators in awareness campaigns to create a supportive environment for reducing substance abuse among adolescents.

Strengths and limitations of study

This study has several notable strengths and limitations. One major strength is the use of a community-based descriptive cross-sectional survey design, which provides a comprehensive snapshot of substance abuse patterns among out-of-school adolescents in Awka South. Another strength is the focus on a specific and vulnerable population, which addresses a significant knowledge gap in existing research. However, the study also has limitations. The snowball sampling technique, while practical for reaching a hidden population, may introduce selection bias and limit the generalizability of the findings. Furthermore, the reliance on self-reported data can lead to underreporting or overreporting of substance use, potentially affecting the accuracy of the results.

Conclusion

This study demonstrated that a substantial population of out-of-school adolescents aged between 10 and 19 years in the Awka South Local Government Area were aware of the commonly used substances in their environment, with alcohol, cigarettes, marijuana/Indian hemp, and tramadol being the most frequently abused. Peer influence emerged as the most influential factor in introducing individuals to substance abuse. Relaxation, coping with stress, recreation, and exploring mindset might be perceived as reasons for usage.

Declarations

Ethical Consideration: The Health Research and Ethics Committee of FMC, Umuahia granted the ethical approval, with reference number: FMC/QEH/G.596/Vol 10/270, while administrative approval was obtained from the head of NCH, Nlagu. After due explanation of the survey objective, procedure, risks/benefits, a written informed consent was obtained from each of the participants before being enrolled the study.

Authors' Contribution: DCO, IBO, ACO, CCN, ACO, CAE, CCA, and CAN collectively contributed to the design of the research and the collection of data for this study. DCO took the lead in composing the initial draft of the manuscript, while IBO conducted the analysis and provided critical editing of the final manuscript. ACO, CCN, ACO, CAE, CCA, and CAN made significant contributions to the study's design and actively participated in the data collection process and final editing of the manuscript.

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