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Prevalence and Determinants of Substance Use among Residents aged 15 years and above in Onitsha. Anambra State

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Abstract

Background: Substance abuse poses a significant public health challenge globally, with its impact more acute in low- and middle-income countries like Nigeria. This study assessed the prevalence and determinants of substance use among residents aged 15 years and above in Onitsha, Anambra State, in Southeastern Nigeria.

Methods: A descriptive cross-sectional design was employed, involving 402 participants selected through multistage stratified random sampling. Data were collected using structured questionnaires and analyzed using SPSS version 26. Descriptive statistics, Chi-square tests, and logistic regression were used to examine associations and identify predictors.

Results: The study found a lifetime substance use prevalence of 44.3%, with 34.8% reporting current use. Alcohol (75.0%), tobacco/nicotine (57.1%), and prescription drugs such as tramadol and codeine (42.9%) were the most commonly used substances. Sociodemographic factors significantly associated with substance use included being male, aged 15–34 years, and single. Key psychosocial factors influencing substance use included recent stressful life events (32.3%), peer substance use (27.4%), and depression or loneliness (23.6%). Peer substance use, depression or loneliness, and recent stressors were independently associated with higher odds of current substance use.

Conclusion: These findings underscore the urgent need for targeted interventions that address the specific social, psychological, and environmental drivers of substance abuse in urban Nigerian contexts. The study highlights the importance of localized data in informing public health strategies and developing effective prevention and treatment programs tailored to community needs.

Keywords: Substance use, Psychoactive substances, Prevalence and Determinants, Psychosocial factors, Depression.

INTRODUCTION

Substance abuse remains a major public health concern worldwide, with its impact particularly pronounced in low- and middle-income countries like Nigeria. The misuse of psychoactive substances, including alcohol, tobacco, cannabis, prescription medications, and illicit drugs has been consistently associated with a wide range of adverse health, social, and economic outcomes. These may include increased risks of mental health disorders, accidents, infections, unemployment, poverty, family disruption, etc.



In recent years, Nigeria has witnessed a significant escalation in substance use, especially among adolescents (1) and young adults (2). This surge has been attributed to various factors, including increased urbanization, poverty, unemployment, peer influence, and weak regulatory mechanisms. A report has also highlighted the growing availability and accessibility of both licit and illicit substances in many urban and rural areas (3), promoting substance experimentation and dependency.

According to the 2018 National Drug Use Survey conducted by the United Nations Office on Drugs and Crime (UNODC), approximately 14.4% of Nigerians aged 15 to 64 years had used a psychoactive drug (excluding alcohol and tobacco) in the past year (2017), equating to nearly 14.3 million individuals (4), and this prevalence continue to rise to date. Notably, cannabis emerged as the most commonly used drug, followed closely by pharmaceutical opioids such as tramadol and codeine. These substances, while often used for medical purposes, are frequently misused and readily available through informal networks and unregulated marketplaces.

Onitsha, a major commercial hub located in Anambra State, Southeastern Nigeria, exemplifies the socio-economic dynamics that make urban centers vulnerable to the substance abuse epidemic. With its dense population, rapid urbanization, bustling commercial activity, and a large proportion of youth residents, the city faces a unique set of challenges related to behavioral health. The socio-economic inequalities, exposure to stressors, and limited access to mental health and addiction services further compound the issue, creating an urgent need for context-specific data to guide interventions.

Despite the alarming trends observed nationally, there is a significant gap in localized data specific to cities like Onitsha. Most national-level surveys present aggregated data based on geopolitical zones, which can obscure critical regional differences in drug use patterns, risk factors, and health consequences. Without reliable local data, public health stakeholders may struggle to develop and implement tailored, effective strategies.

Therefore, this study seeks to address this knowledge gap by assessing the prevalence of substance use and identifying its key determinants among residents aged 15 years and above in Onitsha, Anambra State. Ultimately, a better understanding of the scope and drivers of substance use in Onitsha will contribute to ongoing efforts to mitigate its health and social burden.

MATERIALS AND METHODS

Study Area and Design

The study was conducted in Onitsha, a densely populated commercial city located in Anambra State, Southeastern Nigeria. Onitsha is renowned for its bustling markets, commercial activities, and high volume of internal migration. This research adopted a descriptive cross-sectional study design appropriate for determining the prevalence of health-related behaviors and their associated factors at a specific point in time.

Sampling Technique

A multistage stratified random sampling technique was employed in this study. In the first stage, Onitsha was stratified into several administrative wards, from which four were purposively selected based on population density and accessibility. These included Fegge Ward, Odoakpu Ward, Inland Town Ward, and Woliwo Ward. Within each selected ward, a list of streets was obtained, and five streets were randomly chosen using simple random sampling through balloting. On each selected street, households were systematically selected at regular intervals, and in each household, one eligible respondent aged 15–60 years was randomly chosen to participate in the study. This approach ensured broad coverage across the study area while minimizing sampling bias.

Sample Size

The sample size of 402 was determined using Cochran's formula, which is widely used to calculate an ideal sample size for surveys with large populations (5). This method ensures statistical validity by accounting for 95% confidence level, 5% margin of error (commonly 5%), and an estimated proportion of the population exhibiting the characteristic of interest (often assumed at 50% when unknown). Applying Cochran's formula with these standard parameters yielded a minimum required sample size of approximately 385. To account for potential non-responses or incomplete data, the sample size was increased to 402 to enhance the reliability and representativeness of the findings.

Study Population

A total of 402 participants aged 15 years and above who have been residents of Onitsha for at least six months prior to the study were included in the study. This age group was selected to capture a wide range of behavioral experiences, including early exposure to substance use and long-term usage patterns.

Inclusion and Exclusion Criteria

Individuals aged 15 years and above who were permanent residents of Onitsha and consented to participate in the study were included, whereas individuals who had not resided in Onitsha for at least six months, those with communication disabilities, and non-consenting individuals were excluded from participating.

Data Collection Instrument

A structured questionnaire was used to collect data on substance abuse, its prevalence, associated demographic variables, and psychosocial factors among the participants.

The questionnaire was divided into sections covering socio-demographic data, substance use, types of substances used, and psychosocial influences. It was pre-tested among 30 individuals in a nearby community and adjusted for clarity before final distribution.

Data Analysis

Collected data were analyzed using Statistical Package for the Social Sciences version 26 (SPSS Inc, Chicago, IL, USA). Descriptive statistics such as frequencies and percentages were used to summarize the data. Chi-square test was conducted to explore associations between substance use and categorical variables such as age, sex, education, and peer influence. Variables that showed significant associations were included in a multiple logistic regression model to identify independent predictors of substance use. Statistical significance was set at a p-value of less than 0.05.

Ethical Considerations

Ethical approval was obtained from the Research Ethics Committee of School of Medical Laboratory Technicians, Iyi-Enu Mission Hospital, Ogidi, Anambra State. Participants were assured of confidentiality and anonymity, and no identifying information was collected. They were informed about the objectives of the study and provided written consent before participating.

RESULTS

The study surveyed 402 individuals, predominantly male (57.2%), with a significant proportion aged between 25 and 34 years (29.9%). Nearly half of the participants were single (47.3%), and a substantial majority had attained at least secondary education (82.6%). In terms of income, over 60% earned below ₹50,000 monthly (Table 1).

Among the respondents, 44.3% (n = 178) reported having used at least one psychoactive substance in their lifetime. Current use within the past 30 days was reported by 34.8% (n = 138) of participants (Table 2).

The data presented in Table 3 reveal that alcohol is the most commonly used substance, with 75.0% of current users reporting its use. This is followed by tobacco/nicotine (57.1%) and prescription drugs such as diazepam, tramadol, and codeine (42.9%). Cannabis use is also notable, reported by 35.7% of current users. Caffeine stimulants were used by 28.6% of the participants. Less commonly used substances include inhalants (10.7%), cocaine (7.1%), synthetic drugs (5.7%), heroin (3.6%), and other local concoctions (3.6%).

In Table 4, the most common factors influencing substance use included recent stressful life events (32.3%), peer substance use (27.4%), and peer pressure (22.4%). Emotional factors such as depression and loneliness were reported by 23.6% of respondents. Other contributing factors included parental substance use (21.1%), poor academic performance (19.4%), absence of parental care (17.4%), low self-esteem (16.2%), risk-taking behaviors (14.9%) and authoritarian parenting style (13.7%).

Table 5 shows the association between current substance use and selected sociodemographic and psychosocial factors. Among the sociodemographic characteristics, age group, sex, and marital status were significantly associated with substance use (p = 0.004, 0.0004, and 0.028, respectively). However, educational level and monthly income did not show significant associations (p > 0.05). Regarding psychosocial factors, significant associations were observed between substance use and peer substance use, depression or loneliness, recent stressful life events, and peer pressure (p < 0.05). Significant associations were also found with parental substance use, poor academic performance, and absence of direct parental care (p = 0.011, 0.020, and 0.040, respectively). On the other hand, low self-esteem, risk-taking behavior, and authoritarian parenting style did not demonstrate statistically significant associations with substance use (p > 0.05).

The multiple logistic regression analysis in Table 6 identifies independent predictors of current substance use. Sociodemographic factors significantly associated with higher odds of substance use included being male (AOR = 2.5, 95% CI: 1.6–3.9, p = 0.0001), aged 15–24 years, and aged 25–34 years (AOR = 1.8, 95% CI: 1.1–3.0, p = 0.016 and AOR = 2.2, 95% CI: 1.0–4.7, p = 0.042 respectively). Respondents who were single were also more likely to engage in substance use (AOR = 1.7, 95% CI: 1.1–2.8, p = 0.030). Among psychosocial variables, peer substance use (AOR = 3.2, 95% CI: 2.0–5.1, p = 0.0001), depression or loneliness (AOR = 2.1, 95% CI: 1.3–3.4, p = 0.002), and recent stressful life events (AOR = 1.6, 95% CI: 1.0–2.5, p = 0.048) were statistically significant predictors. Other factors such as peer pressure, parental substance use, and poor academic performance were not independently associated with substance use after adjusting for confounders.

Table 1. Sociodemographic Characteristics of Respondents

Variable	Frequency (n)	Percentage (%)	
Age Group (years)			
15–24	80	19.9%	
25–34	120	29.9%	
35–44	100	24.9%	
45–54	62	15.4%	
55–60	40	9.9%	
Sex			
Male	230	57.2%	
Female	172	42.8%	
Marital Status			
Single	190	47.3%	
Married	180	44.8%	
Divorced/Separated/Widowed	32	7.9%	
Educational Level			
No Formal Education	20	5.0%	
Primary	50	12.4%	
Secondary	180	44.8%	
Tertiary	152	37.8%	
Monthly Income			
< N20,000	102	25.4%	
N 20,000− N 50,000	140	34.8%	
N 50,001− N 100,000	100	24.9%	
> № 100,000	60	14.9%	

Table 2: Prevalence of Substance Use among Residents

Substance Use	Frequency (n)	Percentage (%)
Ever used substances	170	42.3%
Currently using	140	34.8%
substances		

Table 3: Types of Substances Used among Current Users

Substance Category	Frequency (n)	Percentage (%)
Alcohol	105	75.0%
Tobacco/Nicotine	80	57.1%
Cannabis (Indian hemp, marijuana, weed)	50	35.7%
Prescription Drugs (Diazepam, tramadol, codeine)	60	42.9%
Inhalants (Glue, petrol fumes)	15	10.7%
Caffeine Stimulants (Fearless, Bullet, coffee)	40	28.6%
Cocaine (coke, crack)	10	7.1%
Heroin	5	3.6%
Synthetic Drugs (Methamphetamine, ecstasy)	8	5.7%
Others (e.g., local herbs - monkey tail)	5	3.6%

Some respondents used multiple substances.

Table 4: Psychosocial Factors influencing Substance Use

Factor	Frequency (n)	Percentage (%)
Peer substance use	110	27.4%
Peer pressure experienced	90	22.4%
Recent stressful life event	130	32.3%
Depression/Loneliness	95	23.6%
Parental substance use	85	21.1%
Poor academic performance	78	19.4%
Absence of direct parental care	70	17.4%
Low self-esteem	65	16.2%
Risk-taking behavior	60	14.9%
Authoritarian parenting style	55	13.7%

Table 5: Association Between Sociodemographic and Psychosocial Factors with Current Substance Use

Variable	Chi-square (χ²)	p-value
Sociodemographic Factors		
Age group	15.20	0.004*
Sex	12.55	0.0004*
Marital status	10.88	0.028*
Educational level	5.21	0.156
Monthly income	9.45	0.051
Psychosocial Factors		
Peer substance use	20.32	0.0001*
Depression/Loneliness	14.20	0.001*
Recent stressful life event	13.50	0.002*
Peer pressure experienced	11.75	0.003*
Parental substance use	9.10	0.011*
Poor academic performance	7.82	0.020*
Absence of direct parental care	6.45	0.040*
Low self-esteem	5.30	0.071
Risk-taking behavior	4.92	0.085
Authoritarian parenting style	3.88	0.102

Table 6: Multiple Logistic Regression Analysis of Factors Associated with Current Substance Use

Variable	AOR	95% CI	p-value
Sociodemographic Factors			
Sex (Male)	2.5	1.6 – 3.9	0.0001*
Age group 15–24 years	1.8	1.1 - 3.0	0.016*
Age group 25–34 years	2.2	1.0 - 4.7	0.042*
Single marital status	1.7	1.1 - 2.8	0.030*
Psychosocial Factors			-
Peer substance use	3.2	2.0 - 5.1	0.0001*
Depression/Loneliness	2.1	1.3 - 3.4	0.002*
Recent stressful life event	1.6	1.0 - 2.5	0.048*
Peer pressure	1.5	0.9 - 2.4	0.072
Parental substance use	1.4	0.8 - 2.3	0.113
Poor academic performance	1.3	0.7 - 2.1	0.150
Absence of parental care	1.2	0.7 - 2.0	0.188

AOR = Adjusted Odds Ratio

CI = Confidence Interval *Significant

DISCUSSION

This study investigated the prevalence and determinants of substance use among residents aged 15 years and above in Onitsha, Anambra State, Nigeria.

The findings revealed that 42.3% of respondents reported ever using substances, and 34.8% were current users, suggesting a relatively high prevalence of substance use within the community. This is consistent with national trends reported in the 2018 National Drug Use Survey in Nigeria, which estimated that 14.4% of Nigerians aged 15–64 had used drugs at least once in the previous year 2017 (4), and this prevalence has continued to rise progressively. This may be attributed to factors such as urbanization, socioeconomic stress, or lack of effective community interventions. The gap between lifetime use and current use may also suggest ongoing substance use among many individuals who have initiated use. The observed prevalence is higher than the 10% and 12.3% prevalence rates reported in rural communities in Nigeria (6, 7), highlighting the role of urban exposure and environmental factors.

Another 21% rate was reported among secondary school adolescents in northern Nigeria (8). On the contrary, a 40.4% prevalence was reported among young people in South-South, Nigeria (9). These variations in prevalence may be attributed to the sample size, age of participants or types of substance use considered in the respective studies.

Alcohol (75.0%) was observed to be the most commonly used substance, followed by tobacco/nicotine (57.1%) and prescription medications (42.9%). This is consistent with global trends, where alcohol and tobacco are the most widely

used substances possibly due to their wide availability and accessibility. Alcohol occupies a central role in Nigerian social life, used at ceremonies, providing both ritual significance and stress relief (10).

In contexts of economic hardship and unemployment, these substances are most times relied upon as coping mechanisms, offering a temporary escape from life issues, including financial insecurity (11). Prescription drugs such as tramadol are often diverted from therapeutic channels due to weak regulation and high demand for self-medication of pain (7). It is also believed to enhance physical and strenuous activities. Similar trends were observed by Metuge et al., who reported alcohol (98.45%), tobacco (28.3%), tramadol (7.5%) and cannabis (6.8%) as the dominating substances used by tertiary institution students in Cameroon (12). Kyei-Gyamfi et al. also reported alcohol as the most common substance used among adolescents in Ghana, followed by cigarettes, tramadol, and marijuana (13). However, tramadol and shisha were reported to be mostly abused in the rural communities of North-Western and South-Western Nigeria (6, 7).

The use of prescription drugs in 42.9% of the study population may suggest increasing misuse of over-the-counter medications, which has become a growing concern among young adults. Cannabis was used by 35.7% of respondents. Inhalants, caffeine stimulants, cocaine, heroin, and synthetic drugs were used by relatively smaller proportions of the respondents, which may highlight ongoing experimentation with more dangerous substances. Interestingly, a small number of respondents (3.6%) reported using local herbs such as "monkey tail," reflecting local, culturally specific forms of substance use that may be overlooked in global studies.

Notably, certain socio-demographic factors were significantly associated with current substance use. Age was a major factor, with younger individuals (particularly those aged 15–34 years being more likely to engage in substance use. This aligns with the UNODC report in 2022, stating that individuals aged under 35 make up the largest proportion of those receiving treatment for drug-related disorders (14). This trend is consistent with previous studies that suggest younger age groups are more susceptible to substance use (15), possibly due to youthful exuberance. Additionally, sex was another significant predictor, with males exhibiting a higher likelihood of substance use compared to females. This finding mirrors existing research that points to higher substance use among males (16, 12), often linked to increased propensity for risk-taking and higher peer pressure in males. Furthermore, marital status also played a role, with single individuals being more prone to substance use compared to those who were married. This could be due to the fact that single individuals may have fewer responsibilities and are more likely to engage in risky behaviors.

Psychosocial factors were also significantly associated with substance use. Peer substance use emerged as one of the most influential factors, with individuals whose peers used substances being much more likely to engage in similar behaviors. This highlights the strong role of peer influence in substance use. Young people who observe peers use alcohol, tobacco, or other drugs are far more likely to mirror these behaviors themselves, In Nigeria, peer networks have been shown to top the list of reasons for substance use, as individuals adopt the habits of social groups they wish to belong to. This corroborates the study of Akpan et al., who reported peer substance use as a major contributory factor to substance use among young people in Nigeria (9).

Another important psychosocial factor was depression and loneliness, which were significantly linked to substance use. People experiencing emotional distress, such as depression or feelings of isolation, often turn to substances as a form of coping mechanism. Additionally, recent stressful life events were associated with higher substance use, suggesting that individuals may resort to substances as a way to manage or escape from stressors such as relationship breakdowns or financial difficulties. This is in line with the study of Hosseinbor et al. which reported that social and emotional feelings of loneliness are high-risk factors that may cause initiation of substance abuse (17).

To address the issues identified, it is recommended that school-based awareness programs be integrated into the curriculum to educate learners on health, wellness, and responsible decision-making. Strengthening youth counseling centers is also essential to provide accessible, professional support for learners dealing with emotional, psychological, or social challenges. Additionally, stricter control measures should be enforced on the sale of over-the-counter medications to prevent misuse and ensure the safety and well-being of the broader community.

The study's focus on Onitsha alone may limit generalizability, thus, expanding future research to include multiple urban and rural settings would provide a broader understanding of substance use patterns across diverse populations.

Conclusion:

The high prevalence of substance use in Onitsha underscores the need for urgent public health interventions. Tailored programs targeting adolescents and young adults, with focus on peer education, emotional health support, and substance regulation, are essential for reversing the trend.

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