












Research Article

Prevalence and Correlates of Substance Use and the Effects on the Young People in a Southwestern State of Nigeria

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Abstract

In 2015, psychoactive substance use led to the deaths of 72 young people within a month across Ondo, Edo, and Rivers states in Nigeria, with Ondo being the most affected. The youth attributed these deaths to the wrath of the gods (Malokun) rather than alcohol consumption. This study aims to identify demographic factors influencing youth substance use in Ondo State. Using a cross-sectional, descriptive community study design, 500 participants aged 10 to 24 years were recruited. Data collected through a socio-demographic questionnaire and the Alcohol, Smoking, and Substance Involvement Screening Test (ASSIST) were analyzed with Statistical Package for Social Science (SPSS) version 16. The findings revealed that alcohol was the most used substance, with a lifetime use prevalence of 69.6%, likely due to the availability and cultural acceptability of local alcoholic products like ogogoro and palm wine. Substance use was found to negatively impact social life. Significant correlates of substance use included gender, age, religion, and father's relationship. Males had higher lifetime use than females ($p = 0.008$), and substance use prevalence was higher among late adolescents ($p = 0.0034$). Christian respondents reported higher lifetime use compared to Muslims ($p = 0.010$). These results highlight that alcohol is the predominant substance used by young people in Ondo State, with key correlates being male gender, religion, less friendly father relationships, and late adolescence, informing public health strategies to mitigate harmful effects of substance use.

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Keywords

Substance Use, Effects of Substance Use, Young People

1. Introduction

Substance use, encompassing the harmful use of drugs and alcohol for non-medical purposes, represents a significant public health concern. The World Health Organization (WHO) defines drug abuse as the hazardous use of psychoactive substances, including alcohol and illicit drugs [1]. While substance use often connotes the illegal use of drugs, legal substances such as alcohol, prescribed medications, stimulants, caffeine, nicotine, and volatile substances like petrol, methylated spirit, pain medications, methanol, and ethanol can also be misused. Substance use ranges from social recreational use to addiction, with pathological use characterized by compulsive behavior, impaired social functioning, and medical complications [1]. According to the American Academy of Pain Medicine and the American Society of Addiction Medicine, substance misuse can lead to addiction, marked by craving, compulsive use, and impaired control, even amidst negative physical, mental, and social consequences. In Nigeria, substance misuse accounts for a substantial proportion of deaths among young adults, with fatal injuries prevalent among this demographic [2, 3].

Physical dependence on substances results in withdrawal symptoms due to cognitive and physiological adaptations, where tolerance necessitates increasing quantities to achieve the desired effect. Psychoactive substance use disorders are a significant public health burden in Nigeria, affecting both individuals and society at large [4, 5]. Adolescents, who constitute a significant portion of the population in low and middle-income countries, are particularly vulnerable to substance use due to the physical, psychological, and social changes during this critical period [6]. Experimentation with drugs and other risky behaviors is common among adolescents, often leading to severe consequences [7]. This behavior necessitates urgent attention from scholars and stakeholders in Nigeria.

Substance abuse, especially alcohol, has been linked to increased crime rates, including theft and rape [8, 9]. In 2015, psychoactive substance use led to the deaths of 28 youths aged 15-24 in Ondo State, highlighting the severity of the issue [10]. Local alcohol consumption, particularly of locally manufactured gin (ogogoro), accounts for a significant portion of total alcohol consumption worldwide, contributing to these fatalities. The Nation newspaper reported the deaths in Ode-Irele, Ondo State, associated with the consumption of toxic local gin, resulting in community backlash and the destruction of the shop selling the gin. Similar incidents occurred in Edo and Rivers states, where youths died after consuming locally

refined alcohol during drinking competitions or while consuming contaminated dog meat and liquor.

In response to these tragedies, state governments-imposed bans on the sale of locally made gin and intensified public health campaigns to educate communities on the dangers of consuming toxic local alcohol. Misunderstandings about the cause of these deaths, often attributed to supernatural beliefs, highlight the need for accurate public health information. A study conducted by the Ondo State Ministry of Health, in collaboration with WHO, confirmed that the deaths were linked to the consumption of large quantities of alcohol at local drinking joints, dispelling myths of supernatural causes. These findings underscore the critical need for effective public health interventions and education to mitigate the harmful effects of substance use among Nigerian youths.

This study aims to investigate the prevalence, patterns, and socio-demographic correlates of substance use among young people in Idanre Local Government Area (LGA) of a southwestern state in Nigeria. By comprehensively examining these factors, the research seeks to provide valuable insights into the extent of substance use, identify the predominant substances being used, and understand the socio-demographic characteristics associated with substance use in this region.

Substance use among young people is a growing concern with significant implications for public health, social stability, and economic development. Understanding the prevalence and patterns of substance use, along with the socio-demographic factors that influence this behavior, is crucial for developing effective prevention and intervention strategies. This research is particularly significant as it addresses a gap in the current literature specific to Idanre LGA, providing localized data that can inform targeted policies and programs aimed at mitigating the adverse effects of substance use on young people in this region. The study will address the following questions:

1. What is the prevalence of substance use among young people in Idanre LGA?
2. What are the patterns of substance use among young people in Idanre LGA?
3. What are the socio-demographic correlates associated with substance use among young people in Idanre LGA?

2. Method

2.1. Study Design

This research employs a cross-sectional, descriptive, community-based study design aimed at understanding substance use among young people in Idanre Local Government Area, Ondo State. The design involves collecting data at a single point in time from a representative sample of young individuals aged 10 to 24 years. This approach is suitable for estimating the prevalence and correlates of substance use in the population, providing a snapshot of the current situation.

2.2. Sampling Technique

A multi-stage sampling technique was utilized to select the study participants. Initially, one ward within Idanre Local Government Area was randomly chosen. Subsequently, the ward was stratified by size into 16 enumerated areas, from which the eight largest areas were selected. In each enumerated area, households were sampled using a systematic approach. From a central location in the enumerated area, a coin toss determined the initial direction of sampling (East or West). Households in the chosen direction were sampled consecutively until the target number of 63 young individuals per area was achieved. If the target was not met, sampling continued in a perpendicular direction until completion. Within each household, one young person was selected randomly by balloting if multiple eligible participants were present. This method ensured a representative sample of 500 young people.

2.3. Data Collection

Data collection involved administering two main instruments: a socio-demographic questionnaire and the WHO Alcohol, Smoking, and Substance Involvement Screening Test (ASSIST). The socio-demographic questionnaire gathered information on variables such as age, gender, religion, family background, education level, and parents' occupations. The ASSIST, an interview-administered screening tool, assessed the use of various substances, including tobacco, alcohol, marijuana, and other drugs. It evaluated substance use frequency, dependency, and associated problems. The questionnaires were administered in both English and Yoruba, with translations tailored to the local dialect. Four trained research assistants and the principal investigator conducted the interviews, ensuring consistency and accuracy in data collection. Interviews were carried out daily over six weeks, between 4:00 PM and 7:00 PM, to accommodate participants' schedules. Data was recorded in real-time to minimize errors and ensure completeness.

2.4. Ethical Considerations

Ethical approval for the study was obtained from the appropriate institutional review board. Additionally, permission was sought from local community leaders and household heads. Informed consent was secured from all participants aged 18 and above, while assent was obtained from minors (aged 10 to 17) alongside parental consent. Participants were thoroughly briefed on the study's objectives, procedures, potential risks, and benefits, with the information presented in simple, clear language. Confidentiality was rigorously maintained; no identifying information was recorded, and data was anonymized. Participants were assured of their right to withdraw from the study at any time without penalty. The research aimed to minimize risks and inconveniences by scheduling data collection at convenient times and avoiding invasive procedures. Participants received psycho-education on substance use risks and were provided with information on available support services if needed. The findings of the study are intended to inform public health policies and interventions aimed at reducing substance abuse among youth in the community. A token of appreciation, such as a pen, was given to participants to acknowledge their contribution.

3. Result

3.1. Lifetime Prevalence of Substance Use Among Respondents

Respondents were asked questions about their experience with alcohol, tobacco products and other drugs across their lifetime. Some of the substances were listed in the tables below. Alcohol lifetime prevalence rate was 348 (69.6%). Also, 100 (20%) of the respondents has lifetime prevalence use of sedatives or sleeping pills. The third, lifetime prevalence substance used by participant was Tobacco with 76 (15.2%). The lifetime prevalence of marijuana was found to be 46 (9.3%). Cocaine was the least used drug in this category with 10 (2%) lifetime prevalence.

Table 1. Prevalence of substance use.

Lifetime Prevalence	No (n (%))	Yes (n (%))
Tobacco products	423 (84.8)	76 (15.2)
Alcohol Beverages	152 (30.4)	348 (69.6)
Marijuana	451 (90.7)	46 (9.3)
Cocaine or Crack	490 (98.0)	10 (2.0)
Amphetamines or stimulants	469 (93.8)	31 (6.2)
Inhalants	456 (91.2)	44 (8.8)
Sedatives or sleeping pills	500 (80.0)	100 (20.0)

Lifetime Prevalence	No (n (%))	Yes (n (%))
Hallucinogens	481 (96.2)	19 (3.8)

3.2. Prevalence of Substance Use by Respondents in the Past Three Months

Respondents were, also asked if they have ever or sometimes taken drugs in the past three months, for reasons other than prescription by the doctor. In the past three months 48.2% of the respondents had taken alcohol beverages. Ten percent (51) of the participants had used Tobacco in the past 3 months. Similarly, almost ten percent use sedatives within the time frame. Only 6.5% of the participants use marijuana, which represents almost half of the people that use tobacco. However, cocaine was the least used substance in the area with just 1% of the participants uses this substance. None of the respondents had seen or taken heroin or morphine. So these drugs are not reflected further in the analysis.

Table 2. Prevalence of substance use of respondents in the past three months.

3 month prevalence	No (n (%))	Yes (n (%))
Tobacco products	449 (89.8)	51 (10.2)
Alcohol Beverages	259 (51.8)	241 (48.2)
Cocaine or Crack	495 (99.0)	5 (1.0)
Marijuana	469 (93.8)	31 (6.2)
Amphetamines	476 (95.2)	8 (1.6)
Inhalants	475 (95.0)	25 (5)
Sedative Pills	441 (88.2)	58 (11.8)
Hallucinogens	488 (97.8)	11 (1.3)

3.3. Desire or Urge for Substance Use of Respondents in the Past Three Months

In the past three months, very few of the respondents had a strong desire for substance use. However, ten percent of the participants had the desire to use alcohol. While the desire to use Tobacco, Marijuana and sedatives were less than 4%.

Table 3. Desire or urge for substance use of respondents in the past three months.

3 Months Prevalence	No (n (%))	Yes (N (%))
Tobacco products	482 (96.4)	16 (3.6)
Alcohol Beverages	450 (90.0)	50 (10)
Cocaine or Crack	497 (99.4)	3 (0.6)
Marijuana	488 (97.6)	12 (2.4)
Amphetamines	486 (98.6)	7 (1.4)
Inhalants	491 (98.4)	8 (1.6)
Sedatives pills	480 (96.4)	18 (3.6)
Hallucinogens	494 (99.0)	5 (1.0)

3.4. Substance Use and Its Associated Problems

During the past three months, very few of the respondents had used substances that had led them to health, social, legal or financial problems. Nevertheless, alcohol still topped the list (3.6%) of the problems associated with the use of various substances among the participants. This was used to test the effects of substance use on the young people.

Table 4. Effects of substance use on the young people.

In the past 3 months, has substance use led you to health, social, legal or financial problems?	No (n (%))	Yes (n (%))
Tobacco products	495 (99.0)	5 (1.0)
Alcohol Beverages	482 (96.4)	18 (3.6)
Cocaine or Crack	498 (99.8)	1 (0.2)
Marijuana	493 (98.6)	7 (1.4)
Amphetamines or stimulants	496 (99.6)	2 (0.4)
Inhalants	491 (98.2)	9 (1.8)
Sedatives or sleeping pills	489 (97.8)	11 (2.2)
Hallucinogens	496 (99.2)	4 (0.8)

3.5. Ever Failed to Do What Was Normally Expected Due to Substance Misuse in the Past Three Months

During the past three months, very few of the respondents had often failed to do what was normally expected of them due to use of drug substance. Alcohol had ever affected activities of daily living about 2.6% of the participants.

Table 5. Respondents Ever failed to do what is normal.

During the past three months, how often have you failed to do what was normally expected of you because of your use of	Never (n (%))	Once or Twice (N (%))
Tobacco products	496 (99.8)	1 (0.2)
Alcohol Beverages	486 (97.4)	13 (2.6)
Cocaine or Crack	498 (99.8)	1 (0.2)
Marijuana	496 (99.2)	4 (0.8)
Amphetamines or stimulants	496 (99.6)	2 (0.4)
Inhalants	495 (99.0)	5 (1.0)
Sedatives or sleeping pills	492 (98.8)	6 (1.2)
Hallucinogens	498 (99.6)	2 (0.4)

3.6. Friends or Relative ever Expressed Concern About Respondents' Substance Misuse

Table 6 shows the concern expressed by the respondents' friends or relative about the substance use. About five percent (4.6%) was on alcohol beverages and almost two percent (1.6%) on marijuana.

Table 6. The concerns of relatives about respondents' use of substance.

Has a friend or relative or anyone else ever expressed concerned about your use of	Never (N (%))	Yes, but not in the past 3 months (n (%))	Yes, in the past 3 months (n (%))
Tobacco products	487 (97.4)	3 (0.2)	10 (2.0)
Alcohol Beverages	474 (95.0)	2 (0.4)	23 (4.6)
Cocaine or Crack	499 (99.8)	1 (0.2)	0 (0.0)
Marijuana	499 (98.0)	2 (0.4)	8 (1.6)
Amphetamines or stimulants	498 (99.6)	1 (0.2)	1 (0.2)
Inhalants	500 (100)	0 (0.0)	0 (0.0)
Sedatives or sleeping pills	497 (94.4)	1 (0.2)	2 (0.4)
Hallucinogens	499 (99.8)	0 (0.0)	1 (0.2)

3.7. Respondents ever Tried and Failed to Control Substance Use

About 4.2% of the participants had ever tried in the past three months to control the use of alcohol beverages while almost half (2.4%) of them had ever tried to stop or cut down Tobacco products (Table 7).

Table 7. Respondents ever tried and failed to control substance use.

Have you ever tried and failed to control, cut down or stop using	Never n (%)	Yes, but not in the past 3 months n (%)	Yes, in the past 3 months n (%)
Tobacco products	487 (97.4)	1 (0.2)	12 (2.4)
Alcohol Beverages	475 (95.0)	4 (0.8)	21 (4.2)
Cocaine or Crack	499 (99.8)	0 (0.0)	1 (0.2)
Marijuana	490 (98.0)	1 (0.2)	9 (1.8)
Amphetamines or stimulants	498 (99.6)	0 (0.0)	2 (0.4)
Inhalants	499 (99.8)	0 (0.0)	1 (0.2)
Sedatives or sleeping pills	497 (94.4)	1 (0.2)	2 (0.4)
Hallucinogens	498 (99.6)	1 (0.2)	1 (0.2)

3.8. Pattern of ASSIST Risk Scores of Individual Substances Use Among Respondents N=500

Table 8 about 9.7% of the respondents had moderate use of tobacco however it is important to note that 0.4% of the respondents had high use of tobacco. Also 10.8% and 1.6% of the respondents had moderate and severe use of alcohol respectively. 5.2% and 0.8% of the respondents had moderate

and high use of marijuana respectively while 47.6% and 0.6% of the respondents had moderate and high use respectively. This was the level of practice of substance misuse, among young people in Idanre, Ondo State. For tobacco, alcohol, marijuana, sedative or sleeping pills and pain medication, the abuse and misuse were very high. Approximately, one in every ten young adult moderately misuses tobacco substance (9.7%) and alcohol (10.8%).

Table 8. Pattern of ASSIST risk scores of individual substances use among respondents N=500.

	No use or Low risk (N (%))	Moderate Risk (N (%))	High risk (N (%))
Tobacco	450 (89.9)	48 (9.7)	2 (0.4)
Alcohol	438 (87.6)	54 (10.8)	8 (1.6)
Marijuana	470 (94.0)	26 (5.2)	4 (0.8)
Cocaine or Crack	494 (98.8)	6 (1.2)	0
Amphetamines or Stimulants	476 (95.2)	24 (4.8)	0
Inhalants	473 (94.6)	27 (5.4)	0
Sedatives or Sleeping Pills	442 (88.4)	56 (11.2)	2 (0.4)
Hallucinogens	500 (100.0)	0	0

3.9. Correlates of Demographic Variables and Substance Use

Table 9 presents the association between socio-demographic characteristics and substance misuse among young people in the study area, examining factors such as gender, age, education, and family type. It was found that a

higher proportion of males have used substances, particularly tobacco, compared to females (23.9% vs. 14.4%). This gender difference in substance use was statistically significant ($\chi^2 = 6.97$, $df = 1$, $p\text{-value} = 0.008$). However, the relationship between education level and substance use among young adults was not statistically significant ($\chi^2 = 7.830$, $df = 3$, $p\text{-value} = 0.050$). Conversely, there was a significant association between the age of respondents and substance use ($\chi^2 =$

7.80, $df = 4$, $p\text{-value} = 0.034$), with older young people demonstrating a higher likelihood of substance use.

Table 9. Substance misuse by gender, age group, education & family type.

	Lifetime use of any substance		χ^2	Df	P-value
	No (n (%))	Yes (n (%))			
Gender					
Male	134 (76.1)	42 (23.9)	6.84	1	0.009
Female	267 (85.6)	45 (14.4)			
Age Group (Years)					
10-14	99 (90.0)	11 (10.0)	7.80	4	0.034
15-19	154 (78.2)	43 (21.8)			
20-24	148 (81.8)	33 (18.2)			
Education					
No formal education	8 (72.7)	3 (27.3)	7.830	3	0.050
Primary	113 (81.9)	25 (18.1)			
Secondary	190 (79.2)	50 (20.8)			
Tertiary	80 (92.0)	7 (8.0)			
Family Type					
Monogamous	220 (83.7)	43 (16.3)	0.642	1	0.423
Polygamous	142 (80.7)	34 (19.3)			

Chi-square is significant at 0.05

3.10. Religion, Employment Status and Position Among Mother's Children and Substance Misuse

Table 10 illustrates the relationships between the religion of respondents, their employment status, marital status, as well as their relationship with their father and substance abuse. It was found that religion was significantly associated with substance abuse ($\chi^2 = 6.628$, $df = 1$, $p\text{-value} = 0.010$). However,

the relationship between employment status and substance misuse was not statistically significant ($\chi^2 = 3.491$, $df = 1$, $p = 0.062$). Similarly, marital status showed no significant association with substance use (17.5% unmarried vs. 19.5% married; $\chi^2 = 0.170$, $df = 1$, $p\text{-value} = 0.680$). However, respondents' relationship with their father was significantly associated with substance use, particularly among those with less friendly relationships ($\chi^2 = 10.108$, $df = 1$, $p\text{-value} = 0.001$).

Table 10. Religion, employment status and position among mother's children and substance misuse.

	Lifetime substance use		χ^2	df	P-value
	No (N (%))	Yes (N (%))			
Religion					
Christianity	348 (84.1)	66 (15.9)	6.628	1	0.010
Islam	53 (71.6)	21 (28.4)			

	Lifetime substance use		χ^2	df	P-value
	No (N (%))	Yes (N (%))			
Employment Status					
Employed	152 (78.4)	42 (21.6)	3.491	1	0.062
Unemployed	223 (85.1)	39 (14.9)			
Marital Status					
Unmarried	339 (82.5)	72 (17.5)	0.170	1	0.680
Married	62 (80.5)	15 (19.5)			
Relationship with father					
Friendly	388 (83.1)	79 (16.9)	10.108	1	0.001
Not Friendly	9 (52.9)	8 (47.1)			

Chi-square is significant at 0.05; Chi-square is significant at 0.01

4. Discussion

4.1. Prevalence of Substance Use by the Respondents

Lifetime prevalence was defined as having ever tasted or used any substance. The study revealed a 69.6% lifetime prevalence rate for alcoholic beverages, making it the most commonly used substance. Sedatives were the second most used at 20%, followed by tobacco products at 15.2%, and marijuana at 9.3%. Other substances included amphetamines (6.2%), inhalants (8.8%), hallucinogens (3.8%), and cocaine (2%). These findings align with Kandel et al. [11], who identified these substances as gateways to other drugs, and Makanjuola et al. [12], who also found alcohol, tobacco, and marijuana to be the most used drugs among Nigerians. The study found that 69.6% of participants reported lifetime alcohol use, with 48.3% reporting use in the past three months. This aligns with Manyike et al. [13], who found lifetime alcohol use rates between 0.8% and 63.5%. Okoza et al. [14], cited by Kanyoni et al. [15], identified a 66% prevalence rate. However, other studies report lower lifetime prevalence rates: Makanjuola et al. [12] found a 46% rate among university students in Ilorin, and Kanyoni et al. [15] reported 57.9% in Rwanda, with current use at 34%. Lasebikan et al. [16] found a 57.9% lifetime prevalence and 23.7% current use in a semi-rural community in Ibadan. High local alcohol use might be due to the availability and cultural acceptability of local alcoholic products like gin (ogogoro) and palm wine, as well as parental influence and social gatherings where alcohol is prevalent [17]. The lifetime prevalence rate of tobacco use was 15.2%, consistent with other studies reporting rates between 5% and 20% [18]. Variations depend on location and

study instruments.

4.2. Pattern of Use of Substances Among the Respondents in the Past Three Months

The study found that 48.2% of participants reported alcohol use in the past three months. This rate is higher than the 13.4% reported by Fatoye et al. [19] among secondary school students in Ilesa, Osun State, which might be due to different settings and instruments. The current use of tobacco was 11.8%, aligning with Fatoye and Morakinyo [19], who found an 8.9% rate in a semi-urban setting in Nigeria. Kayoni et al. [15] in Rwanda reported a monthly prevalence rate of 8.3%, validating these findings. However, Gureje et al. [4] reported a slightly higher rate, possibly due to different methodologies.

4.3. Correlates of Substance Use

The study found that substances such as alcohol, marijuana, and tobacco, often referred to as "gateway drugs" [11, 12], were used more by males than females. This aligns with several studies [4, 5], though Fatoye et al. [19] found no significant gender differences, possibly due to different methodologies. Substance use was higher among late adolescents (15-19 years), possibly due to experimentation associated with this stage of life. Makanjuola et al. [20] supported this finding, noting that adolescents use stimulants to enhance academic performance. A friendly relationship with one's father was associated with significantly lower lifetime substance use, possibly due to better parenting. Makanjuola et al. [21] supported this finding in a study in Ilorin, Kwara State. Christian respondents had slightly higher lifetime substance use compared to Muslims, possibly due to Islamic restrictions on substance use. This finding is supported by Gureje et al. [4] and Makanjuola et al. [22], who noted that religiosity, rather

than specific religions, influences substance use.

4.4. Effects of Substance Use

Substance use among the study population, particularly of alcohol, marijuana, and tobacco, had various effects on health, daily life, and social relationships. The study noted associated health problems and social issues, with 3.6% reporting such effects. Richet [23] reported a higher rate (20%) of mental health disorders among substance users, possibly due to different settings. The Centers for Disease Control and Prevention (CDC) notes that substance use among young people can lead to risky behaviors and long-term health problems, such as renal disease, heart issues, and sleep disorders.

5. Conclusion

In conclusion, this study sheds light on the prevalent substance use patterns among young people in Ondo state, revealing alcohol as the most commonly used substance, while cocaine is the least used. This trend may be influenced by the cultural acceptance of alcohol, particularly locally produced options like gin (ogogoro) and palm wine (emu ope). The research identifies several correlates of substance use, including male gender, religious affiliation, less friendly relationships with fathers, and late adolescent age. These findings offer valuable insights for policymakers at both state and federal levels, providing a basis for formulating targeted interventions to address the associated health and social issues prevalent among youth in rural Nigerian settings.

Abbreviations

ASSIST	Alcohol, Smoking, and Substance Involvement Screening Test
LGA	Local Government Area
SPSS	Statistical Package for Social Science
WHO	World Health Organization

Conflicts of Interest

The authors declare no conflicts of Interest.

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