



RESEARCH ARTICLE

Assessment of Teenagers' Involvement in Drug and Substance Abuse in Nigeria

Ronari O. Charles^{1,3*}, Samuel J. Bunu², Oyintari Charles¹, Patricia Okafor³

¹Pharmacy Department, Federal Medical Centre Yenagoa, Bayelsa State,

²Department of Pharmaceutical and Medicinal Chemistry, Faculty of Pharmacy, Niger Delta University, Wilberforce Island, Bayelsa State, Nigeria.

³Department of Philosophy and General Studies, College of Chaplaincy and Psychology Nigeria, African American University, Porto Novo.

ARTICLE HISTROY

Received 15 March 2024

Revised 18 March 2024

Accepted 20 March 2024

Keywords

Drug

Substance

Abuse

Teenagers

Involvement

Nigeria

ABSTRACT

The study is aimed to assess the knowledge and involvement of teenagers in Nigeria in drug and substance abuse. A cross-sectional descriptive study design was used across all States. A total of 782 teenagers' data was obtained for the survey. Data was analyzed using Microsoft Excel and SPSS, utilizing ANOVA. A total of 782 subjects participated in the study by responding and filling out the online questionnaire. 489 (62.5%) of the respondents were females while 293 (37.5%) were males. 520 (66.50%) of participants indicated that they were aware and had the knowledge that drug and substance abuse can cause damage to anyone who indulges in it. 65 (8.31%) were not aware while 197 (25.19%) indicated that they were not sure. 56 (7.16%) indicated that they were suffering a bad effect on their health/behavior due to the use or abuse of drugs and substances. 99 (12.66%) obtained drugs from friends, 44 (5.63%) sourced from patent medicine stores and 32 (4.09%) from pharmacies. Respondents who got the drugs from the club were 10 (1.28%). There is a high prevalence of drug/substance abuse among teenagers in Nigeria and it has become a menace and a major public health burden. Friends are the most common source of drugs and substances used by teenagers and therefore of major influence on the lifestyle adopted by teens. Teenagers use drugs to enhance their physical activities and this calls for serious concern in society.

✉ Ronari O. Charles
rotecsglobal@gmail.com, +234-7031074179

©2024 The Author(s). Published by Panainool Ltd.

Introduction

Substance abuse is the harmful usage of any chemical for mood-altering purposes, including alcohol, prescription and over-the-counter (OTC) drugs, illegal narcotics, inhalants and solvents, nicotine, and even coffee. Abuse occurs when a substance is used in a manner that is not intended

(McLellan, 2017). Substance abuse is a complicated issue influenced by a variety of circumstances. Although there is no way to predict who will become addicted to drugs, a combination of circumstances can increase a person's risk (Witkiewitz et al., 2019). In previous studies,

marijuana has been connected to significant short- and long-term health risks (Volkow et al., 2016). Over the last few decades, prescription drug abuse has skyrocketed. According to the National Institute on Drug Abuse, between 8% and 12% of patients in the United States who are prescribed opioid pain medications develop a substance use disorder (Vowles et al., 2015).

The number of opioid-related deaths increased by 16% between 2019 and 2020, according to the Centres for Disease Control and Prevention (CDC), with an average of 44 individuals dying each day from prescription opioid overdoses in 2020 (Bonar et al., 2020). Opioids, central nervous system depressants, and stimulants such as codeine, methylphenidate, amphetamines, benzodiazepines, methadone barbiturates, fentanyl, morphine, oxycodone, and others commonly sleep-inducing medications are misused in the United States of America. Excessive use of alcohol, prescription and OTC drugs, inhalants and solvents, and even coffee and cigarettes can all be dangerous. Many children's earliest encounters with substance abuse occur through the use of inhalants, which are contained in many common home goods and thus readily available (Chandel et al., 2019). Alcohol is allowed in the United States for adults over the age of 21. However, it does not take much alcohol to achieve a dangerous level of drinking, and it is at this point that alcohol usage can become alcohol abuse. Nicotine is the most abused chemical on the planet (Lachenmeier & Rehm, 2015). Caffeine is the most regularly used mood-altering medication in the world, while nicotine is the most abused. Caffeine in excess can be harmful to the body's organs. Caffeine usage has also been linked to several mental illnesses, including caffeine-induced sleep disorder and caffeine-induced anxiety disorder (Jee et al., 2020). Bath salts crystal, meth Colorado, and synthetic marijuana can all be overused and are more harmful than other narcotics. Although anabolic steroids do not have any mood-altering or intoxicating qualities, they can nevertheless be abused. Because of the harmful side effects of steroid use, using anabolic steroids to improve performance or increase muscles and strength is

abusive (Havnes et al., 2019). In some circumstances, these might vary from simply bothersome to life-threatening. Substance abuse occurs when the usage of a substance causes harm. Understanding these dangers may assist you in recognizing warning signs of a major problem and increasing your motivation to seek treatment. Substance abuse poses risks to both individuals and society. Individuals may experience health issues, mental health issues, risky conduct, and legal troubles as a result (Csete et al., 2016). Substance abuse can increase societal expenditures linked with health problems and lost productivity. It can also contribute to social issues like criminality. Behavioral therapy, medicines, or a mix of approaches may be used to treat substance use problems. Some types of therapy that may be used include cognitive behavioral therapy (CBT), contingency management, and motivational enhancement therapy. Medications can also help persons who are addicted to opioids, nicotine, or alcohol (NSDUH, 2016).

Drug addiction jeopardizes undergraduate education at institutions around the world. The user's overall health suffers, and drug-related behaviors expose the abuser to criminality and communicable diseases such as HIV/AIDS (CDC, 2000). People use drugs for a variety of reasons, including the desire to belong to a social group or class, peer pressure, self-medication, parental deprivation at various levels, pleasure, overcoming illness, gaining confidence, overcoming shyness, facilitating communication, overcoming many other social problems, and inducing themselves to work above their physical capacity (Nath et al., 2022). Relaxation, increased physical performance, driving pleasure, curiosity, staying awake, stress relief, anxiety, unemployment, frustration, and simple access were among the most frequently mentioned causes in Nigeria (Yunusa et al., 2017; Namadi, 2016; Essien, 2010). Some signs of drug and substance abuse include tolerance development, being unwilling to control substance use, spending a significant time obtaining, using, and taking substances in risky settings, missing or poor performance at a job or school, withdrawal from social or leisure events, etc., (Garofoli, 2020).

Health awareness and education campaigns, early intervention and prevention programs, parental involvement and monitoring through parenting skill strengthening, community involvement and support, educational prevention programs, emotional and social education programs, treatment and rehabilitation programs, universal school-based addiction prevention programs, and family-focused prevention programs are some possible preventive measures for drug and substance abuse (CDC, 2016).

High mortality rates among drug users have been observed, which is attributed in part to the HIV epidemic and in part to drug-related accidental fatalities and suicides, posing a major public health concern. Drug and substance misuse prevalence among Nigerian adolescent pupils was recently revealed to be 45.7%; one in every four students abused substances despite an aggregate risk awareness level of 94.6%. The most misused substances were alcohol and cigarettes, which were both legally and socially acceptable (61.5% and 54.5%, respectively). The list of drugs was led by codeine-containing syrup and tramadol, which ranked higher than cannabis (Olanrewaju et al., 2022). The study aimed to assess teenagers' knowledge of drug and substance abuse in Nigeria, identify drugs and substances that are commonly abused in society, the specific age or age bracket during teenage years that drugs and substances are most commonly abused, the physical, psychological, and social effects that drugs and substances abused have on teenagers, the reasons why teenagers engage in drug and substance abuse, and the prevalence of drug and substance abuse.

Materials and Method

Study design and population

A cross-sectional descriptive study design was used to identify and assess the knowledge and involvement of teenagers in Nigeria in drug and substance abuse, cutting across all States. Inclusion criteria include all persons residing in Nigeria within the age of 13-19 years, both male and female who give consent to participate in the study while exclusion criteria include persons below 13

years of age and those above 19 years of age. With a population of over 200 million people, Nigeria is the most populous country in Africa and the ninth most populated country in the world. The country is organized into 36 states, each with its own culture and history, and encompasses an area of 923,768 square kilometres. These States are grouped further into 774 Local Government Areas. Nigeria is divided into six geopolitical zones: North-Central, North-East, North-West, South-East, South-South, and South-West. According to the United Nations Numbers Division's World Population Prospects 2019 report, the estimated number of youth (aged 10-24 years) in Nigeria is around 90 million, accounting for almost 45% of the total population. According to the United Nations Numbers Fund's State of the World Population 2017 report (ref), the number of teens (aged 13-19 years) in Nigeria is predicted to be around 30 million. It should be noted that there is some difference in estimations of Nigeria's adolescent population. Over 14 million Nigerians (almost 7% of the population) are now using illicit drugs, including users of cannabis, painkillers, cocaine, and other drugs. However, because many drug users do not seek treatment or record their drug use, this estimate is likely to be underestimated (United Nations Office on Drugs and Crime; UNODC, 2018).

Sample size and sampling technique

To determine the sample size for this research, it would be necessary to consider the total population of teenagers in Nigeria, the level of accuracy desired, and the desired confidence level. Assuming a 95% confidence level, a 5% margin of error, and a total population of 30 million teenagers, the sample size would be calculated as follows, according to the sample size formula for proportions: $n = (Z^2 \times p \times (1-p))/e^2$; where, n = sample size, Z = z-score for desired confidence level (1.96 for 95% confidence level), p = proportion of the population that will respond in the desired way (0.5, since we do not know the true proportion), e = margin of error (0.05 for 5% margin of error). The sample size is approximately 385 teenagers.

Research instrument validation and administration

The questionnaire was subjected to a validity test, and a pilot test was conducted with a small group of respondents which allowed for further refinement of the questions and ensured that they were clear, easy to understand, interpreted as intended, and free from bias. The study questionnaire was prepared and uploaded into an online Google form and shared on social media (WhatsApp) group platforms and as a private message to individuals. A coordinated system was used to share the Google form where a contact person with the role of a representative was identified for each State of the Federation. The contact person was made to share the link for the Google form on various social media platforms with a request for persons who fall within the inclusion criteria to fill in after their consent was obtained. Additionally, a request was made for adults with smart phones to assist persons who fall within the inclusion criteria and give consent to participate in the study by filling out Google forms based on the responses disclosed to them. Confidentiality was guaranteed for all information made available by the respondents to the questionnaire. The data obtained was for only persons aged 13-19 years. The information requested in the questionnaire is presented under the result section.

Ethical consideration and Data analysis

The aim for requesting the information in the questionnaire was explained in the preliminary section and informed consent was obtained from every participant before completing the questionnaire. Respondents were free to decline participation in the research and no participant was coerced into responding to the questionnaire in the Google link. Data was analyzed using a Microsoft Excels preadsheet and SPSS23.0 computer software program, utilizing one-way ANOVA.

Results and Discussion

The study instrument (online questionnaire) had as part of its component, the option of participating or not participating in the study. Results from the extensive survey are presented in frequency distribution tables and charts.

Demographic data of participants

The result shows that, in Nigeria, females were more interested in the subject of drug and substance abuse compared with males who fall within the inclusion criteria. Another possible reason for the observed gender distribution may be the comparatively larger population of females than males in Nigeria. According to reports from the Nigeria Demographic and Health Survey 2018, the proportion of females to males in Nigeria is about 50.3% females to 49.7% males (Figure 1). This means that there are slightly more females than males in Nigeria. It is worth noting that these proportions may vary depending on the region or location within the country.

There was a corresponding increase in the number (and percentage) of participants with increasing age/age bracket. The lowest proportion of participants were those aged 13 years, followed by the 14-15 years group and then 16-17 years with the highest population within 18-19 years (Table 1). The observed pattern may be because, the younger teenagers have less privilege, opportunity, or access to Android or smart phones or other internet-enabled gadgets that are needed to complete the online questionnaire and some prospective participants would depend on older persons to assist with their smart phones in reading the content of the questionnaire or actual filling of same, while teenagers at 18-19 years are more likely to be independent and have access to internet-enabled phones. This is congruent with recent research findings on access to internet-enabled phones or other gadgets by teenagers as recent data indicates that 18-year-olds in Nigeria have slightly more access to internet-enabled devices than 13-year-olds. About 76% of 18-year-olds have access to the internet via a mobile phone, compared to 65% of 13-year-olds. Additionally,

36% of 18-year-olds have access to a tablet, compared to only 28% of 13-year-olds (Nigerian Bureau of Statistics, 2019). The observation in the statistics of participants according to their highest level of education is also in line with the increased participation based on increasing age, with the highest participants aged 18-19 years. The teenagers in the highest age category are more

likely to be in the University or to have attended the University and have more access to internet-enabled devices.

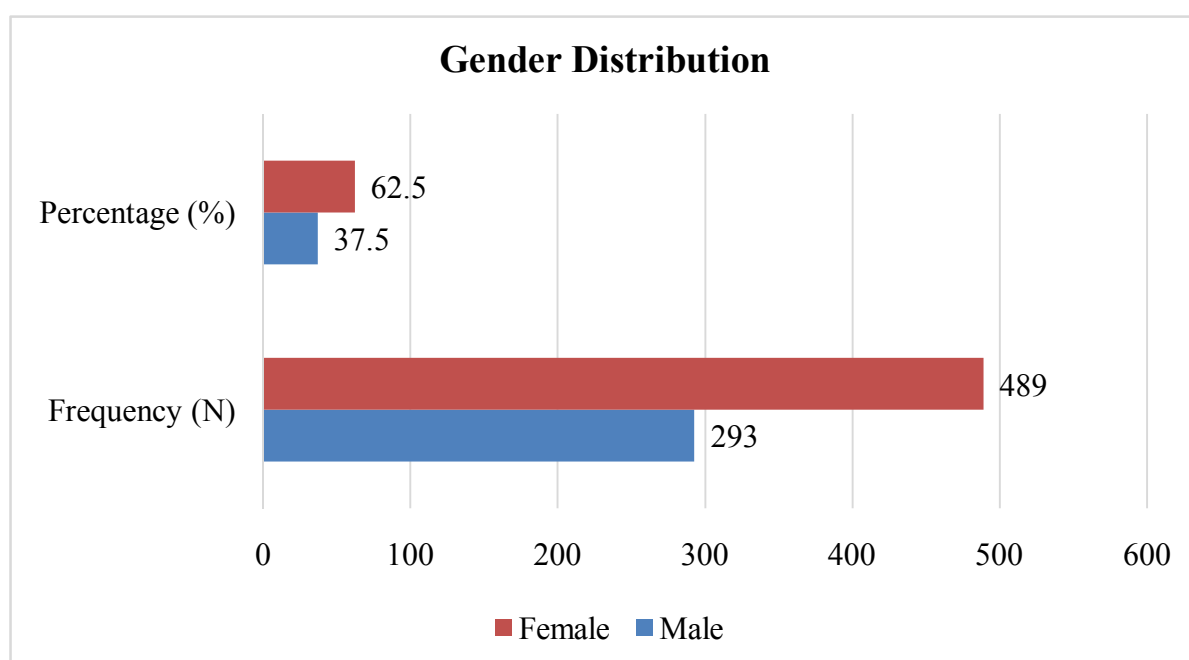


Figure 1. Gender Distribution of Participants (N = 782). A total of 782 subjects, spread across different States and geopolitical zones of Nigeria participated in the study by responding and filling out the online questionnaire. 489 (62.5%) of the respondents were females while 293 (37.5%) were males.

Table 1. Demographic Data (N =782)

Variable		Frequency(N)	Percentage(%)
Age category	13	21	2.7
	14-15	32	4.1
	16-17	207	26.5
	18-19	522	66.8
	Total	782	100.0
Highest level of education	Nursery school	0	0.0
	Primary school	22	2.8
	Secondary school	204	26.1
	University	556	71.1
	Total	782	100.0

States of residence and geopolitical zones of participants

It was observed that the South-South geopolitical zone had the highest number of participants in the study. Participants drawn from Bayelsa State alone made up over fifty percent of the entire population

used in the research. This is largely because; the study was carried out from Bayelsa State where it was easy to reach out directly to eligible participants and encourage them to participate, and from where validation of the research instrument was also done. Delta, a neighbouring

State to Bayelsa, had a fairly good number of participants in the study, from the responses received. Rivers and Edo States had a comparatively fewer number of respondents. Abia and Enugu States fall within the same geopolitical zone, the South East, and had the same number of respondents in the study. Osun, a State in the South West had a relatively large number of participants, the second highest among the States. Others in the South West (Lagos and Oyo State) had the same number of respondents, being few. Borno State located within the North East geopolitical zone with known security challenges still had participants. This was possible largely because the study instrument was available online

and only needed access to internet-enabled devices such as phones and tablets to fill and complete the questionnaire and did not require physical presence or hard copies. Benue State, located within the North Central had a good number of respondents, being the third largest compared to all other States. Kwara State and the Federal Capital Territory (FCT), also in the North Central geopolitical zone had the same number of respondents, being among the fewest. Zamfara State, in the North West of Nigeria, also had the fewest proportion of participants, similar to Kwara State and the FCT (Figure 2).

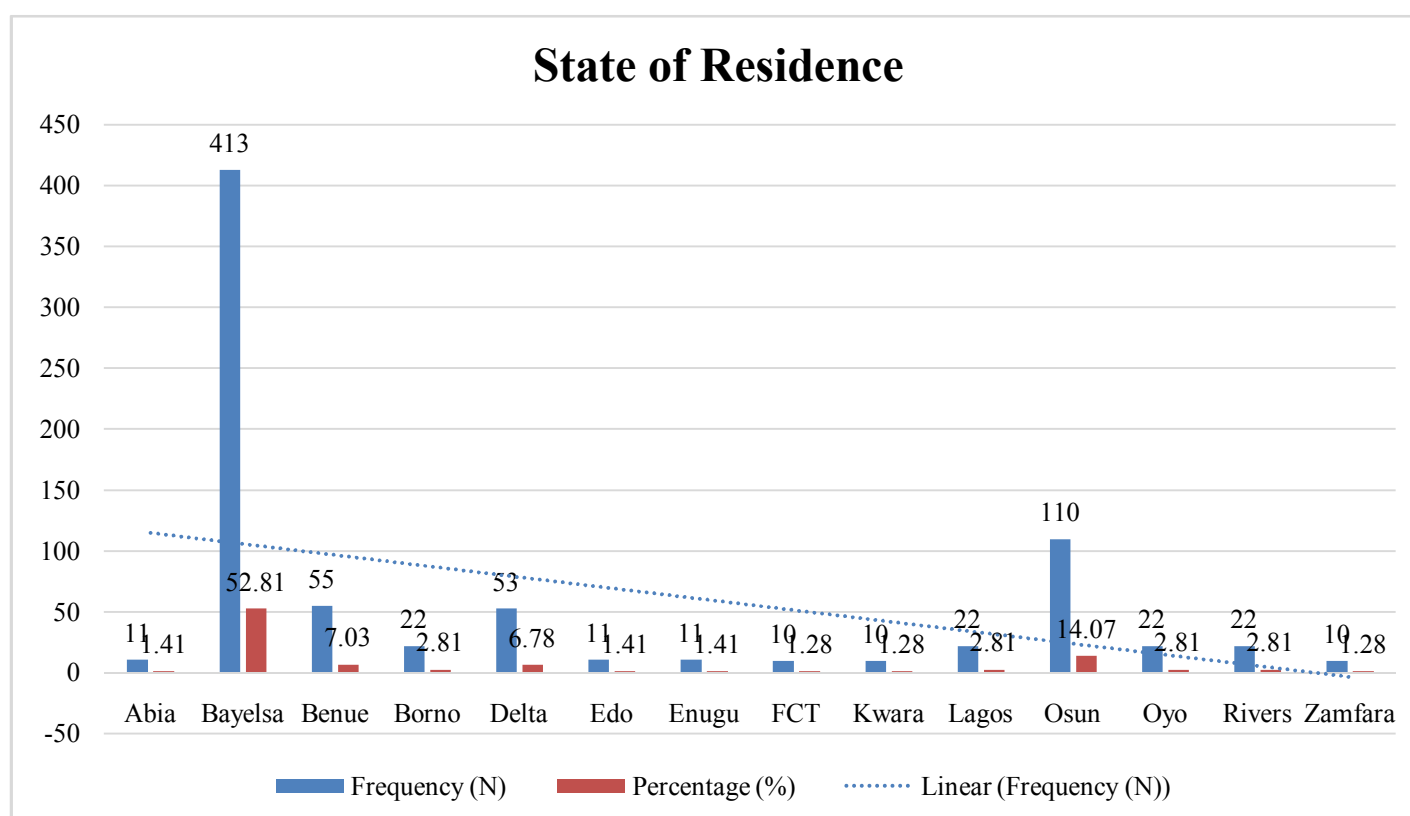


Figure 2. State of residence of Participants (N =782). Participants in this study were spread across all six (6) geopolitical zones of Nigeria. Among the participants, 413 (52.81%) were residents of Bayelsa State, 53 (6.78%) were residents in Delta State while Rivers State and Edo State had 22 (2.81%) and 11 (1.41%) participants respectively. Participants from Abia State and Enugu State were 11 (1.41%) each. Participants from Osun State were 110 (14.07%) while Lagos and Oyo State had 22 (2.81%) participants. Benue State had 55 (7.03%) while Federal Capital Territory (FCT) Abuja and Kwara State both had 10 (1.28%) participants in the research. Borno State had 22 (2.81%) respondents. Zamfara State had 10 (1.28%) respondents out of the total 782 in the study.

Abuse of Drugs and Substances

According to the survey results, the number of teenagers who had engaged in illicit drug or substance use is significant and similar, but slightly higher, than previous findings that the lifetime prevalence of use of any psychoactive substance among the population study was 17.3% (Obadeji et al., 2020). However, the prevalence in this study (Table 2) was lower when compared to other

findings based on states in different geopolitical regions in Nigeria, with 32.9% (Anyanwu et al., 2016) in south-eastern Nigeria or 65.7% (Lawoyin et al, 2005) and 69.3% (Ogunsola&Fatusi, 2016) in south-western Nigeria. However, the poll also indicated that in the same southwestern section of Nigeria, the proportion of pupils who had used any substance in their lifetime is slightly greater than 15% (Yisa et. al, 2009).

Table 2. Drugs and Substance Abuse (N=782)

Variable	Yes		No		Not Sure	
	N	%	N	%	N	%
Have you taken any Illicit drug or substance to give you a special feeling or to make you feel good/high?	162	20.7	609	77.9	11	1.40
Did the illicit drug give you a special feeling or make you feel good?	129	0	555	71.0	98	12.5
Are you aware that drugs and substances that are taken to get special feelings ("high") can cause damage to the body and brain?	520	66.50	65	8.31	197	25.19
Do you feel you are suffering any bad effects on your health or behavior due to the use or abuse of drugs and substances?	56	7.16	389	49.09	337	43.09
Would you like to be free from staying on drugs and substances?	348	44.50	33	4.22	401	51.28

About 162 (20.7%) of respondents indicated that they had taken an illicit drug or substance in their lifetime, 609 (77.9%) responded that they had not indulged in drug or substance abuse while 11 (1.40%) indicated that they were not sure about whether or not they had been involved in drug or substance abuse. 129 (16.5%) of the participants indicated that the drug or substance they used gave them a resultant special (high) feeling about themselves. About the potentially damaging effects that drugs and substances could cause to the body and brain, 520 (66.50%) of participants indicated that they were aware and had the knowledge, 65 (8.31%) responded that they were not aware while 197 (25.19%) indicated that they were not sure drug and substance abuse can cause any damage to anyone who indulges in it. 56 (7.16%) of the participants indicated that they were suffering bad effects on their health/behaviour due to the use or abuse of drugs and substances, 389 (49.09%) responded that they did not experience any bad

effect on their health/behaviour from the use or abuse of drugs or substances. 348 (44.50%) participants responded that they were interested in staying drug-free whereas 33 (4.22%) indicated that they would not like to live a drug-free life. However, 401 (51.28%) participants indicated that they were not sure whether or not they would like to stay drug-free.

Drug and substance misuse are widespread throughout Nigeria's six geopolitical zones. According to a 2018 report by the United Nations Office on Drugs and Crime, the South-West, which includes Ekiti, Lagos, Ogun, Ondo, Osun, and Oyo states, has the highest prevalence of drug and substance use (22.4% or 4,382,000 users), particularly in Lagos and Oyo state. Following substance usage, a significant number of individuals experienced a misleading sensation of well-being (high)/pleasure. There are currently no research findings on the statistics of youth who develop a false sense of well-being and pleasure,

yet studies on the various reasons why people use illicit drugs and substances, including driving pleasure, do exist (Yunusa et al., 2017; Namadi 2016; Essien 2010). Olanrewaju et al., (2022), stated that the most common motive for drug and substance usage was "to get high" (81.3%). According to Odejide (2006), the initial experience with drugs causes arousal in the form of intense euphoria and pleasure, which pushes users to continue using. The high poverty rate in Nigeria, with around 50% of people living in extreme poverty (World Bank, 2020), and the rising rate of unemployment (23.1%) (Nigerian Bureau of Statistics, 2019), illustrate how difficult the socioeconomic situation may be for many Nigerians. These factors may cause persons to engage in drug usage to cope with the stress and frustration of daily life in adversity.

According to the poll, more than half of all participants were aware of the harm that illicit drug and substance use could do to the body, implying that there is widespread knowledge and awareness of substance use problems among Nigerian youths. This is congruent with the findings of Olanrewaju et al. (2022), who discovered that, even though a substantial proportion of respondents acknowledged the risks of drug and substance addiction, there was a significant prevalence of abuse. Some of the youth reported adverse consequences and bad experiences as a result of drug or substance usage (Miediegha & Bunu, 2020). It is estimated that 35 million people will suffer from drug use problems all over the world (UNODC, 2018). Furthermore, the Global Burden of Disease Study 2017 predicted that there were 585,000 drug-related fatalities worldwide in 2017 (UNODC, 2018). The majority of responders were unconcerned about being drug and substance-free. Participants who determined to live a drug-free life scored higher than those who resolved to continue using drugs. The refusal of a few respondents to live a drug-free life despite the socioeconomic repercussions and health risks associated with continuing drug and substance use may be related to the development of addiction and the desire to continue suppressing psychological discomfort. A study looked at the

link between addictive behaviors and psychological suffering in adolescents and young adults (Savolainen et al., 2018), reported all forms of addictive behaviors had a substantial direct link with higher psychological discomfort (Page et al., 2011), and those with a history of polydrug use were more likely to experience psychological distress than non-polydrug users (Kelly et al., 2015).

Knowledge of commonly abused drugs and involvement

Despite the high number of youths that used cannabis, the study contradicts the findings of Adamson et al., (2015), who discovered cannabis to be the most utilized illicit drug. Marijuana was the most abused illicit substance, according to the poll data. Tramadol was also the most popular drug among teenagers. This is consistent with Nigeria's recent public outpouring of concern about the tramadol epidemic (The Punch, 2019). Even though it is a forbidden medication that may only be sold and administered with a prescription in approved pharmacies, one prevalent cause of excessive usage among children is lax drug control regulations, which have increased substance availability (Dumbili, 2015).

Of the participants, 11 (1.41%) teenagers who participated in this study reported to have indulged in the use of Cannabis. The reports from the study also had 11 (1.41%) for Cocaine, 12 (1.53%) for Coscorin (monkey tail), 13 (1.66%) for hemp, 1 (0.13%) for heroin, 12 (1.53%) for Mandy, 24 (3.07%) for marijuana, 1 (0.13%) for methamphetamine, 35 (4.48%) for swinol, 48 (6.14%) for tramadol and 11 (1.41%) for weed. Both passion drink and paracetamol were also reported to be abused by 12 (1.53%) among the respondents. Also, 11 (1.4%) respondents reported that they started indulging in drug and substance use at age 13 while 33 (4.2%), 58 (7.4%), and 101 (12.9%) started at 14-15 years, 16-17 years and 18-19 years respectively (Table 3).

Table 3. Knowledge of commonly abused drugs/substances

Variable	Substance	Frequency (N)	Percentage (%)
Can you mention the name(s) of the drug(s)/substance(s) taken?	1. Cannabis	11	1.41
	2. Cocaine	11	1.41
	3. Coscorin (monkey tail)	12	1.53
	4. Hemp	13	1.66
	5. heroine	1	0.13
	6. Mandy	12	1.53
	7. Marijuana	24	3.07
	8. Methamphetamine	1	0.13
	9. Passion drinks	12	1.53
	10. Paracetamol	12	1.53
	11. Swinol	35	4.48
	12. Tramadol	48	6.14
	13. Weed	11	1.41
	14. None	330	42.20
	15. Not Sure	249	31.84
	Total	782	100.00
At what age did you start taking drugs that give you a special feeling?	Age	(N)	(%)
	1. 13	11	1.4
	2. 14-15	33	4.2
	3. 16-17	58	7.4
	4. 18-19	101	12.9
	5. Not Taken	330	42.2
	6. Not Sure	249	31.8
	Total	782	100.0

Swinol (Rohypnol) was the second most commonly misused substance in the survey, contrary to the findings of Idowu et al., (2018), who found tramadol to be the second most commonly used drug. According to the report, methamphetamine and heroin were the narcotics with the lowest prevalence of usage among minors. This could be owing to the drug's scarcity and difficulty in obtaining it. Even though methamphetamine usage has received little scholarly attention in Nigeria, available information indicates that the substance is available in the country (Uzuegbu-Wilson, 2019). The survey corroborates with UNODC's (2018) report on the National Drug Survey where the estimated prevalence of methamphetamine use in Nigeria was 0.1%. According to the UNODC (2018) data, the Eastern area has a 0.06% prevalence of methamphetamine use. This teen

poll is very similar to the relatively low national and regional prevalence percentages seen in the UNODC study on methamphetamine use. Despite this, a small proportion of people reported abusing paracetamol. Paracetamol is an over-the-counter medication that is prone to abuse due to its ease of availability. In their survey on risk perception of paracetamol usage among undergraduate students at the University of Jos, Ejeikwu and Folashade (2019) discovered that the majority of them (49.7%) had taken paracetamol on 40 or more occasions, indicating a high prevalence of paracetamol use among them.

Access, Physical, psychological, health, and social impacts of drug and substance abuse on teenagers

The majority of respondents blamed their poor academic performance on drug use, which is consistent with the findings of Squeglia et al., (2009), who found that neuro-cognitive deficits caused by alcohol and drug-related neural insults can harm subsequent academic, occupational, social, and psychological functioning. A significant

percentage of respondents even dropped out of school as a result of their drug use. A considerable proportion of respondents reported difficulty saving money due to the high cost of obtaining drugs and the possibility of drug addiction, significantly damaging their finances.

Table 4. Access and socioeconomic/health impacts of commonly abused drugs/substances

Variable		Frequency (N)	Percentage (%)
How did you get the drug/substance?	Friends	99	12.66
	Classmates	0	0.00
	Medicine stores	44	5.63
	Pharmacies	32	4.09
	Club	10	1.28
	Not Taken	330	42.20
	Not Sure	267	34.14
	Total	782	100.00
What was the reason you decided to take such drugs and substances?	Boost confidence	10	1.279
	Perform better in sports	11	1.407
	Perform better in school/studies/academics	11	1.407
	Forget about my problems	43	5.499
	Pressure from friends and playmates	44	5.627
	As a painkiller	333	42.583
	Not Taken	330	42.199
	Total	782	100.000
In what ways has the abuse of drugs and substances affected your life?	Dropped out of school	10	1.279
	Poor academic performance	32	4.092
	Poor relationship with people	11	1.407
	Inability to save money	22	2.813
	Constant Headache	11	1.407
	Feeling sick all through	11	1.407
	No side effect	10	1.279
	Palpitations	11	1.407
	Easy satiety without food	11	1.407
	Not Taken	330	42.199
	Not Sure	323	41.304
	Total	782	100.000

About 99 (12.66%) participants reported that they obtained the drugs from friends, 44 (5.63%) sourced theirs from patent medicine stores and 32 (4.09%) accessed the drugs from pharmacies. Respondents who got the drugs from the club were 10 (1.28%). None reported sourcing the drugs from classmates. Reasons why the respondents

indulged in drug and substance use were; to boost confidence 10 (1.279%), perform better in sports 11 (1.407%), perform better in school/studies/academics 11 (1.407%), forget about personal problems 43 (5.499%), pressure from friends and playmates 44 (5.627%), as a pain killer 333 (42.583%). Results from the survey

showed that the use of drugs and substances affected the lives of respondents in the following ways; 10 (1.279%) dropped out of school, 32 (4.092%) had poor academic performance, 11 (1.407%) had poor relationship with people, 22 (2.813%) could not save money, 11 (1.407%) had constant headache, 11 (1.407%) felt sick all through drug use, 11 (1.407%) had palpitations, 11 (1.407%) had easy satiety even without food. However, 10 (1.279%) reported that they had no experience of a side effect (Table 4).

According to Onoja (2010), a population of 30 to 35 million in Nigeria spends about USD 15,000 and USD 30,000 per year on psychotropic medications and alcoholic beverages, respectively. The proportion of respondents who reported no side effects was the lowest. Respondents cited continuous headaches, feeling bad all the time (general malaise), palpitations, and satiety without eating as healthcare-related issues. According to the available literature, drug and substance addiction is linked to a variety of health issues (National Institute on Drug Addiction, 2016). A significant social issue that a large majority of respondents reported was having poor interactions with others. Many research and reports, similar to the results of this study, highlight the negative impact of substance use disorders (SUDs) on the family system and individual members, including children, producing social difficulties and damaging family connections (Klostermann & O'Farrell, 2013; Salo & Flykt, 2013).

Specific age teenagers indulge in drug and substance abuse

The prevalence of drug and substance misuse increased in lockstep with the age of teenagers, with the maximum frequency reported at 18-19 years, the pinnacle of adolescent life (Table 3). This is consistent with previous findings that the age of first use of teenagers referred to McLean Hospital for drug treatment is between 13 and 15 years for all drugs and that the percentage of people using most drug classes rose with age (Labouvie et al., 1997). Furthermore, Clark et al., (2008) and Squeglia et al., (2009) discovered that as the adolescent brain develops, it becomes more

vulnerable to substance use, with changes in brain structure, function, and neuro-cognition. This explains why the prevalence of drug and substance misuse among teenagers rises in tandem with their age.

Some reasons teenagers indulge in drug and substance abuse

Using the drug as a painkiller was the reason given by the highest population of participants for indulging in drug abuse. The second highest population of respondents reported that they got involved in drug abuse due to pressure from friends and playmates. This may be to derive pleasure and studies by Yunusa et al., (2017) reported that a common reason for involvement in drug abuse is to derive pleasure. To forget about their problems was the reason reported by the third largest population of participants who indulged in drug and substance abuse. Available literature also shows that frustration is a common reason people indulge in drug abuse (Namadi, 2016; Dankani, 2012). Another reason for a good number of respondents was to perform better in sports (Table 4). This is similar to the findings by Gobir et al., (2017). Other reasons given by some participants for their involvement in drug abuse were to perform better in school/studies and to boost their confidence.

Sources of drugs and substances used by teenagers

The highest population of respondents accessed and sourced the drugs from friends and this is congruent with the research work of Edafiadhe, (2005) where friends constituted 61% of drugs used by drug abusers. Patent medicine dealers who are not licensed to stock prescription pharmaceuticals and controlled drugs scored second in the respondents' sources of drugs. Pharmacies were placed third among the sources of medications used by respondents. The findings are comparable to those of Dankani, (2012), who discovered that pharmacies/patent medicine shops were the most popular places where drug abusers received medications. The proportion of participants who obtained drugs in the club was

the lowest. None of the interviewees obtained the drugs from their peers (Table 4). To overcome this menace, all healthcare providers, especially Pharmacists must carefully monitor the use of medicines among teenage patients, as well as by their guardians to minimize the use of hard drugs and substances that would lead to potential abuse (Bunu & Otuaga, 2020; Bunu et al., 2021). Biological measures were not used to confirm drug or substance use, restricting the evaluation or confirmation of drug or substance use. Those who use any of the substances but deny it will be automatically eliminated from the results based on their responses. This was a limitation of the study.

Conclusion

According to the study, youth engage in drug and substance addiction with specific medications as they get older, with a peak between the ages of 18 and 19. Teenagers utilize drugs to increase physical activities such as athletics, which is cause for severe concern in society. This implies that the abilities demonstrated by certain teens are the result of drug and substance abuse. Teenage drug and substance addiction has severe psychological, physical, health, and social consequences. Poor drug control measures are largely to blame for Nigeria's high prevalence of drug and substance usage. Unless the relationship extends outside the classroom, friends and classmates are unlikely to inspire one another to take drugs. Parents and caregivers should try to keep a close eye on their children and wards daily because drug misuse affects not only adults but also teenagers. To avoid bad peer influence, parents and caregivers should actively supervise the types of friends their children keep, especially when it comes to drug and substance misuse. To appropriately supervise the sales of prescription and controlled pharmaceuticals, the government of Nigeria, through the Pharmacy Council of Nigeria (PCN), should provide proper regulation and supervision of pharmaceutical activities and services in patent medicine stores and registered pharmacies. When tournaments in sports are planned, minors should be screened for probable drug usage.

Acknowledgement

The authors are thankful to God in Heaven, the Creator of the whole universe, the giver of life, Jesus Christ, the ONLY way, the truth, and light; and to the Holy Spirit, the ever-present comforter, the wisdom dispenser and supplier of agility.

Conflict of interest

All authors declare no conflict of interest.

References

- Adamson T., Ogunlesi A., Morakinyo O., Akinhanmi A., Olutunde P., Erinsho O., Adewuyi A., Fasiku D., Adebawale T., Ogunwale A., Somoye E. B., & Olaniyan O. (2015). Descriptive National Survey of Substance Use in Nigeria. *J Addict Res Ther*, 6: 234. doi:10.4172/2155-6105.1000234.
- Anyanwu O. U., Ibekwe R. C. & Ojinnaka N. C. (2016). The pattern of substance abuse among adolescent secondary school students in Abakaliki. *Cogent Med*, 3(1):1272160.
- Bonar, E. E., Coughlin L., Roche JS., Philyaw-Kotov, M. L., Bixler, E. A., Sinelnikov S., & Walton MA. (2020). Prescription opioid misuse among adolescents and emerging adults in the United States: A scoping review. *Prev Med*, 132, 105972. doi: 10.1016/j.ypmed.2019.105972.
- Bunu J. S., & Otuaga M. (2020). The Roles of Pharmacists in Maternal and Child Health of Primary Health Care system. *South Asian Research Journal of Pharmaceutical Sciences*, 2 (5): 74-78.
- Bunu J. S., Stella F. U., & Denmo O. O. (2021). Extensive Analysis of Pharmacists' Roles and Services towards Vaccine-Preventable Diseases in Bayelsa State, Nigeria. *RADS Journal of Pharmacy & Pharmaceutical Sciences*, 9(2):86-93.
- Center for Disease Control: CDC (2000). HIV/AIDS: Frequently asked questions on HIV/AIDS. www.cdcnpin.org/hiv/faq/preventionJitm.
- Centers for Disease Control and Prevention: CDC (2016). Social marketing campaigns to reduce underage drinking: An evidence-based guide for community coalitions. <https://www.cdc.gov/alcohol/pdfs/SM-Guide-508c.pdf>.
- Chandel, A., Goyal, A. K., Ghosh, G., & Rath, G. (2019). Recent advances in aerosolized drug delivery. *Biomed Pharmacother*, 112,

108601.
doi:10.1016/j.biopha.2019.108601
- Clark D. B., Thatcher D. L., & Tapert S.F. (2008). Alcohol, psychological dysregulation, and adolescent brain development. *Alcohol Clin Exp Res*, 32(3):375–85.
- Csete, J., Kamarulzaman, A., Kazatchkine, M., Altice, F., Balicki, M., Buxton, J., & Beyrer, C. (2016). Public health and international drug policy. *Lancet*, 387(10026), 1427–1480. doi:10.1016/S0140-6736(16)00619-X.
- Dankani I. (2012). Abuse of cough syrups: a new trend in drug abuse in northwestern Nigerian states of Kano, Sokoto, Katsina, Zamfara, and Kebbi. *Int J Phys Soc Sci*, 2 (8), 199–213.
- Dumbili E. W. (2015). A review of substance use among secondary school students in Nigeria: Implications for policies. *Drugs Educ Prev Policy*, 22(5):387–99.
- Edafiadhe E. W. (2005). Drug abuse among secondary school students in Benin City, Nigeria. Faculty of Psychiatry. <https://www.dissertation.npmcn.edu.ng/index.php/FMCPsych/article/view/1518>.
- Ejeikwu T.M., & Folashade, W. (2019) Risk Perception of Paracetamol Use among Undergraduate Students of University of Jos. *Open Access Library Journal*, 6: e5810. <https://doi.org/10.4236/oalib.1105810>
- Essien C. F. (2010). Drug use and abuse among students in tertiary institutions case of Federal University of Technology, Minna. *Jorind*, 8 (1), 35–42.
- Garofoli M. (2020). Adolescent Substance Abuse. *Prim Care*, 47(2), 383–394. doi:10.1016/j.pop.2020.02.013
- Gobir A., Sambo M., Bashir S., Olorukoba A., Ezech O., & Bello M. (2017). Prevalence and determinants of drug abuse among youths in A rural community in northwestern Nigeria. *Trop J Health Sci*, 24 (4), 5–8.
- Havnes I. A., Jorstad M. L., & Wisloff C. (2019). Anabolic-androgenic steroid users receive health-related information; health problems, motivations to quit, and treatment desires. *Subst Abuse Treat Prev Policy*, 14(1), 20. doi:10.1186/s13011-019-0206-5
- Idowu A., Aremu A. O., Olumide A., & Ogunlaja A. O. (2018). Substance abuse among students in selected secondary schools of an urban community of Oyo-state, South West Nigeria: implication for policy action. *Afr Health Sci*, 18(3):776.
- Jeon H. J., Lee S. G., Bormate K. J., & Jung Y. S. (2020). Effect of Caffeine Consumption on the Risk for Neurological and Psychiatric Disorders: Sex Differences in Humans. *Nutrients*, 12(10). doi:10.3390/nu12103080
- Kelly A. B., Chan G. C. K., Mason W. A., & Williams J. W. (2015). The relationship between psychological distress and adolescent polydrug use. *Psychol Addict Behav*, 29(3):787–93.
- Klostermann K., & O'Farrell T. J. (2013). Treatment of substance abuse: partner and family approaches. *Soc Work Public Health*, 28:234–247.
- Labouvie E., Bates M. E., & Pandina R. J. (1997). Age of first use: its reliability and predictive utility. *J Stud Alcohol*, 58(6):638–43. doi:10.15288/jsa.1997.58.638. PMID: 9391924.
- Lachenmeier, D. W., & Rehm, J. (2015). Comparative risk assessment of alcohol, tobacco, cannabis, and other illicit drugs using the margin of exposure approach. *Sci Rep*, 5, 8126. doi:10.1038/srep08126
- Lawoyin T. O., Ajumobi O. O., Abdul M. M., Abdul Malik J. O., Adegoke D. A., & Agbedeyi O. A. (2005) Drug use among senior secondary school students in rural Nigeria. *Afr J Med Med Sci*, 34(4):355–9.
- McLellan A. T. (2017). Substance Misuse and Substance Use Disorders: Why do they Matter in Healthcare?. *Trans Am Clin Climatol Assoc*, 128, 112–130. <https://www.ncbi.nlm.nih.gov/pubmed/28790493>.
- Miediegha O., & Bunu J. S. (2020). Pharmacovigilance framework and extent of medications adverse reaction surveillance in Southern Nigeria. *World Journal of Pharmaceutical Research*, 9 (6), 2009 – 2017
- Namadi M. M. (2016). Drug abuse among adolescents in Kano metropolis, Nigeria. *IJASS*, 2 (1), 195–206. doi:10.11648/j.ajns.20170602.16.
- Nath A., Choudhari S. G., Dakhode S. U., Rannaware A., & Gaidhane A. M. (2022). Substance Abuse Amongst Adolescents: An Issue of Public Health Significance. *Cureus*, 14(11), 31193. <https://doi.org/10.7759/cureus.31193>
- National Bureau of Statistics (2019). Unemployment rate 2019. Available at: <https://www.nigerianstat.gov.ng/>.

Accessed August 29, 2023.

- National Institute on Drug Abuse (2016). Cocaine: what are the short-term effects of cocaine use?
- NSDUH. (2016). National Survey on Drug Use and Health: Quality Assessment of the 2002 to 2013 NSDUH Public Use Files. In National Survey on Drug Use and Health: Quality Assessment of the 2002 to 2013 NSDUH Public Use Files. Rockville (MD).
- Obadeji A., Kumolalo B. F., Oluwole L. O., Ajiboye A. S., Dada M. U., & Ebeyi R. C. (2020). Substance Use among Adolescent High School Students in Nigeria and Its Relationship with Psychosocial Factors. *J Res Health Sci*, 6, 20(2):e00480. doi: 10.34172/jrhs.2020.15.
- Odejide A. O. (2006). Status of drug use/abuse in Africa: a review. *Int J Ment Health Addict*, 4 (2), 87–102. 10.1007/s11469-006-9015-y.
- Ogunsola O., & Fatusi A. (2016). Risk and protective factors for adolescent substance use: a comparative study of secondary school students in rural and urban areas of Osun State. *Int J Adolesc Med Health*, 29(3).
- Olanrewaju J. A., Hamzat E. O., Enya J. I., Udekwu M. O., Osuoya Q., Bamidele R., & Owolabi J. O. (2022). An assessment of drug and substance abuse prevalence: a cross-sectional study among undergraduates in selected southwestern universities in Nigeria. *J Int Med Res*, 50(10), 3000605221130039. doi:10.1177/03000605221130039
- Onoja M. O. (2010). Prevalence of Substance Abuse Among Secondary School Students—A Comparative Study of Government and Private Secondary Schools in Jos, Nigeria. National institute of health. Available at: <https://nida.nih.gov/international/abstracts/prevalence-substance-abuse-among-secondary-school-students-comparative-study-government-private>.
- Page R. M., Dennis M., Lindsay G. B., & Merrill R. M. (2011). Psychosocial distress and substance use among adolescents in four countries: Philippines, China, Chile, and Namibia. *Youth Soc*, 43(3):900–30.
- Salo S., & Flykt M. (2013). The impact of parental addiction on child development. In: Suchman NE, Pajulo M, Mayes LC, editors. Parenting and substance abuse: developmental approaches to intervention. New York: Oxford University Press; 2013: 195–210.
- Savolainen I., Kaakinen M., Sirola A., & Oksanen A. (2018). Addictive behaviors and psychological distress among adolescents and emerging adults: A mediating role of peer group identification. *Addict Behav Rep*, 7:75.
- Squeglia L. M., Jacobus J., & Tapert S. F. (2009). The Influence of Substance Use on Adolescent Brain Development. *Clin Neurosci Soc ENCS*, 40(1):31–8.
- The Punch (2019). 14.3 million Nigerians abuse cocaine, tramadol, others – FG – Punch Newspapers. <https://punchng.com/14-3-million-nigerians-abuse-cocaine-tramadol-others-fg/>.
- United Nations Office on Drugs and Crime: UNODC, (2018). Drug Use in Nigeria. Vienna: United Nations Office on Drugs and Crime.
- Uzuegbu-Wilson E. (2019). Nigeria and Drug Cartel Links Close to the Summit of Power: A Critical Review. *SSRN*, 3481710.
- Volkow N. D., Swanson J. M., Evins A. E., DeLisi L. E., Meier M. H., Gonzalez R., & Baler R., (2016). Effects of Cannabis Use on Human Behavior, Including Cognition, Motivation, and Psychosis: A Review. *JAMA Psychiatry*, 73(3), 292-297. doi:10.1001/jamapsychiatry.2015.3278
- Vowles K. E., McEntee M. L., Julnes P. S., Frohe T., Ney J. P., & van der Goes D. N. (2015). Rates of opioid misuse, abuse, and addiction in chronic pain: a systematic review and data synthesis. *Pain*, 156(4), 569-576. doi: 10.1097/01.j.pain.0000460357.01998.f1
- Witkiewitz K., Litten R. Z., & Leggio L. (2019). Advances in the science and treatment of alcohol use disorder. *Sci Adv*, 5(9), 4043. doi:10.1126/sciadv.aax4043.
- World Bank (2020). Poverty and equity data portal—Nigeria. <http://povertydata.worldbank.org/poverty/country/NGA>.
- Yisa I. O., Lawoyin T. O., Fatiregun A. A., & Emelumadu O. F. (2009). The pattern of substance use among senior students of command secondary schools in Ibadan, Nigeria. *Niger J Med*, 18(1):98–102.
- Yunusa U, Bello U. L., Idris M., Haddad M. M., & Adamu D. (2017). Determinants of substance abuse among commercial bus drivers in Kano Metropolis, Kano State, Nigeria. *AJNS*, 6(2), 125–130. doi:10.11648/jajns.20170602.16