

# An assessment of drug and substance abuse prevalence: a cross-sectional study among undergraduates in selected southwestern universities in Nigeria

John Afees Olanrewaju<sup>1,2</sup>,  
Ezekiel Olumide Hamzat<sup>1</sup>, Joseph Igbo Enya<sup>3</sup>,  
Maureen Obiageli Udekwa<sup>1</sup> ,  
Quincy Osuoya<sup>2</sup>, Richard Bamidele<sup>4</sup> ,  
Olawumi Feyisike Johnson<sup>5</sup> ,  
Babajide Semeton Johnson<sup>6</sup>,  
Ifedolapo Olanrewaju<sup>7</sup> and  
Joshua Oladele Owolabi<sup>1,8</sup> 

## Abstract

**Objective:** This cross-sectional study aimed to assess the prevalence and awareness of drug and substance abuse among undergraduates in four southwestern universities in Nigeria.

**Methods:** The sample of 400 students included 100 male and female students in the 15- to 29-year age range from each of the four selected universities in southwest Nigeria between December 2019 and June 2020. Descriptive statistics and Pearson chi-square tests were used for data analysis using the statistical package for social sciences (SPSS).

<sup>1</sup>Department of Anatomy, Babcock University, Ilishan-Remo, Ogun State, Nigeria

<sup>2</sup>Eureka research lab, Babcock University, Ilishan-Remo, Ogun State, Nigeria

<sup>3</sup>Department of Anatomy, PAMO University of Medical Sciences, Port Harcourt Rivers State, Nigeria

<sup>4</sup>Department of Anatomy, Olabisi Onabanjo University, Ago Iwoye, Ogun State, Nigeria

<sup>5</sup>Department of Anatomy, University of Ilorin, Ilorin, Nigeria

<sup>6</sup>Department of Internal Medicine, University Hospital of Bristol and Weston NHS Trust, United Kingdom

<sup>7</sup>Department of Public Health, Babcock University, Ilishan-Remo, Ogun State, Nigeria

<sup>8</sup>Department of Anatomy, Division of Basic Medical Sciences, University of Global Health Equity, Rwanda

## Corresponding author:

Joshua O Owolabi, Department of Anatomy, Division of Basic Medical Sciences, University of Global Health Equity, Kigali Heights, Plot 772 KG 7 Ave., 5th floor, Kigali, Rwanda.

Email: jowolabi@ughe.org



**Results:** Four hundred students satisfied the inclusion criteria and suitably completed the questionnaire. Most respondents were in the 15- to 19-year and 20- to 24-year age groups and were female (68%). Drug and substance abuse prevalence was 45.7%; one in every four students abused substances despite an aggregate risk awareness level of 94.6%. Alcohol and cigarettes—legally and socially accepted substances—were the most abused (61.5% and 54.5%, respectively). Codeine-containing syrup and tramadol topped the list of drugs, ranking higher than cannabis. The major motive was to ‘get high’ and numb emotional problems caused by predominantly socioeconomic and societal factors.

**Conclusion:** The study showed a notable prevalence of drug and substance abuse across the selected universities in southwest Nigeria.

### **Keywords**

Prevalence, drug abuse, student, university, substance, southwest Nigeria

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## **Introduction**

According to the World Health Organization, drug and substance abuse refers to the harmful use of psychoactive substances such as alcohol and illicit drugs.<sup>1</sup> The current prevalence of drug and substance abuse has plagued society, caused its members to lose self-consciousness and led to mental disorders, death, addiction and other hardship.<sup>2</sup> A perceived increase in the prevalence of drug abuse globally has been observed. As of 2017, drug users represent approximately 0.9% of the world’s population.<sup>3</sup> Alcohol abuse accounts for 3.3 million deaths annually and 31 million people are documented to suffer from drug use.<sup>4</sup> More than 2.6 million people in the 10 to 24-year age bracket die yearly from drug and substance abuse (World Health Organization, 2019).<sup>5</sup>

Nigeria currently faces similar challenges as its citizens indulge in drugs and substances despite a 1990 National Drug Policy adopted to guard against inadequacies in drug availability, supply and distribution.<sup>6</sup> In Nigeria, a population of 30 to 35 million spends approximately USD \$15,000 and

USD \$30,000 annually on psychotropic drugs and alcoholic beverages, respectively.<sup>4</sup> The abuse of drugs and other substances and associated crime have driven the considerable rise in the number of youths imprisoned in recent years.<sup>7</sup> A report by the United Nations Office on Drug and Crime in Nigeria indicates that 14.4% (14.3 million) of people aged between 15 and 64 years abuse drugs.<sup>8</sup> The statistical analysis of the findings of a 2015 nationwide survey of 10,609 respondents showed that alcohol is the drug with the highest prevalence rate, whereas cannabis is the most abused illicit drug.<sup>9</sup> Drug abuse in Nigeria is prevalent across educational levels and reaches down to the secondary school level.<sup>1</sup>

The considerable increase in drug and substance abuse engendered the war against drugs, which was marked by the creation of two federal agencies in Nigeria: the National Drug Law Enforcement Agency in 1990 and the National Agency for Food and Drug Administration and Control in 1993.<sup>10</sup> Drug and substance abuse is prevalent across Nigeria’s six geopolitical zones. However, the South-West, a zone of serious

concern that comprises Ekiti, Lagos, Ogun, Ondo, Osun and the Oyo States, is reported to have the highest prevalence of drug and substance use (22.4% or 4,382,000 users)—especially in Lagos and Oyo state—according to a 2018 report by the United Nations Office on Drug and Crime. This zone is followed by the South-South, South-East, North-East, North-West and North-Central zones.<sup>8</sup> Notably, the South-West region of Nigeria has one of the highest numbers of universities in the country, accounting for 45 universities accredited by the National University Commission (NUC). The South-South, South-East, North-Central, North-East and North-West zones follow, with 24, 20, 19, 14 and 14 universities, respectively.<sup>11</sup>

These universities are post-secondary educational institutions of higher learning that provide facilities for teaching and research and degrees in various disciplines. Typically, a university has an undergraduate division that grants bachelor's degrees and a graduate school division that confers advanced diplomas (master's and doctorate degrees).<sup>12</sup> Undergraduates are more easily initiated than post-graduate students into harmful habits such as the abuse of drugs and substances.<sup>13</sup> Reasons for initiation include low self-esteem, peer pressure, the need for extra energy for daily activities, poor socioeconomic conditions at home and experimental curiosity.<sup>14</sup> Thus, our research aim was to assess the prevalence and awareness of drug and substance abuse among undergraduates in four south-western universities in Nigeria.

## Methods

### *Research design: a descriptive survey*

**Study setting.** This cross-sectional study was conducted in four universities in southwestern Nigeria, which consists of Ekiti, Lagos, Ogun, Ondo, Osun and Oyo States.

The universities have a combined population of over 30,000 part-time and full-time students.

**Research population.** In total, 480 students participated in the study. Among these respondents, 400 met the inclusion criteria and suitably completed the research questionnaire. The study included 100 male and female students from each of the four tertiary institutions for a total of 400 students. The ratio of female to male students was 68:32.

**Sampling technique.** We used cluster and random sampling techniques to identify clusters and administer questionnaires to students within the schools. The researcher identified four major clusters (i.e., points of the congregation): lecture halls, cafeterias, relaxation/social centers and hostel lobbies.

**Data collection instrument.** The instrument was self-administered and pretested before study initiation. The structured questionnaire was administered to university students across levels and faculties. The instrument was designed to gather information on the four research questions and objectives of the study. The questionnaire was divided into the following sections:

- **Background information (Section 1):** This section captured respondent age, sex, marital status, faculty and state of residence. The section was designed to protect the identity of the respondent.
- **Awareness of abused substances (Section 2):** The 21 questions in this section gauged respondent knowledge of the types and identification of drugs, their cost, where they are sold, their effect and the perceived motive for abuse of these drugs and substances.
- **Prevalence-related risk factors associated with abused substances (Section 3):** This section included 16 questions designed to

identify whether respondents were in an environment that could prompt them to abuse drugs and substances. The section further provided insight into factors that could influence students' interest in substance consumption.

**Data collection procedure.** The research was conducted in Nigeria between December 2019 and June 2020. Questionnaires were self-administered. In each school, researchers identified the three major school-based points (i.e., lecture halls, cafeteria, and relaxation/social centers) within the school premises where a mix of students generally congregate. At these congregation points, the researcher randomly selected students to whom to administer the questionnaire and waited to collect the instrument when it was completed by the student. The researcher provided necessary clarifications on questionnaire items only when required.

### ***Inclusion and exclusion criteria***

**Inclusion criteria.** The inclusion criteria for participating institutions were: 1) must offer a bachelor's degree program in various fields, 2) must be accredited by Nigeria's NUC, 3) must graduate a minimum of one set of graduates (i.e., post-accreditation) and 4) must be located in the southwestern geopolitical zone of Nigeria.

**Ethical considerations.** Institutional Review Board approval was obtained from the Babcock University Health Research Ethics Committee (approval number BUHREC742/19). Written informed consent was obtained from all respondents. The questionnaires were presented to participants in English, the official language of communication. The purpose of the research and questionnaire completion requirements were clearly explained to participants. The research questionnaire did

not collect any personal information that might specifically identify students. In addition, any personal information was fully de-identified in this article.

**Reliability of the study questionnaire.** A pilot test was conducted to verify the usability and appropriateness of the instrument following the method of Hassan et al.<sup>15</sup> Pilot testing was important in helping the researcher decide whether the study was feasible and meaningful. The study instrument was pilot-tested with 18 students and results were analyzed for comprehension level, appropriate completion time and alignment with chosen test statistics. The questionnaire was deemed reliable for administration.

**Method of data analysis and reporting.** Questionnaire data were subjected to descriptive and inferential statistics. Specifically, respondents' demographic data and the study objectives sections were subjected to descriptive statistical methods such as means, percentages and standard deviation. Thereafter, key study variables were subjected to descriptive statistical analysis. Microsoft Excel (2013 version) was used for data entry and coding, editing and cleaning, Graph Pad Prism 8 (GraphPad Software, Inc., San Diego, CA, USA) was used to plot relevant graphs and SPSS Statistical software, Version 21 (IBM Corp., Armonk, NY, USA) was used for tabulation and inferential analysis. The reporting of this study conforms to STROBE guidelines.<sup>16</sup>

## **Results**

### ***Socio-demographic data***

Among the 480 students initially considered eligible to participate in the survey, 80 were rejected for analysis to ensure a consistent number of respondents across universities.

The remaining 400 respondents belonged to the 15- to 19-year, 20- to 24-year and 25-year and above age groups, as shown in Table 1. More than half of the respondents were female (68%) and the largest proportion of respondents were unmarried (87%).

**Table 1.** Respondents' socio-demographic characteristics and state of residence.

|                    | Number of respondents (N = 400) | Percentage (%) |
|--------------------|---------------------------------|----------------|
| Sex                |                                 |                |
| Male               | 128                             | 32             |
| Female             | 272                             | 68             |
| Total              | 400                             | 100            |
| Age                |                                 |                |
| 15–19 Years        | 186                             | 46.5           |
| 20–24 Years        | 186                             | 46.5           |
| 25–29 Years        | 11                              | 2.8            |
| >29 years          | 17                              | 4.3            |
| Total              | 400                             | 100            |
| Marital status     |                                 |                |
| Married            | 8                               | 2.0            |
| Unmarried          | 348                             | 87.0           |
| Others             | 44                              | 11.0           |
| Total              | 400                             | 100            |
| State of residence |                                 |                |
| Abuja              | 14                              | 3.5            |
| Adamawa            | 1                               | 0.3            |
| Akwa Ibom          | 2                               | 0.5            |
| Delta              | 2                               | 0.5            |
| Edo                | 5                               | 1.3            |
| Ekiti              | 3                               | 0.8            |
| Enugu              | 1                               | 0.3            |
| Kaduna             | 1                               | 0.3            |
| Katsina            | 1                               | 0.3            |
| Kwara              | 1                               | 0.3            |
| Lagos              | 176                             | 44.0           |
| Ogun               | 94                              | 23.5           |
| Ondo               | 67                              | 16.8           |
| Osun               | 4                               | 1.0            |
| Oyo                | 10                              | 2.5            |
| Plateau            | 1                               | 0.3            |
| Rivers             | 1                               | 0.3            |
| Zamfara            | 2                               | 0.5            |
| Not indicated      | 14                              | 3.5            |
| Total              | 400                             | 100            |

The majority of respondents were from Lagos (44.0%), Ogun (23.5%), and Ondo (16.8%) states (Table 1).

**Prevalence of drug and substance abuse.** This study identified not only the prevalence of drug and substance abuse among those already actively involved in abuse but also the prevalence of those who are susceptible to abuse owing to various factors.

Among respondents, 45.7% were involved in drug and substance abuse (Table 2). Social factors such as respondents' clique of friends (Table 3 (a)) and environmental factors (Table 3 (b) and (c)) influenced susceptibility to substance abuse and affected the prevalence of abuse. Specifically, 6.3% of respondents said they were more susceptible to drug and substance abuse because of their clique of friends whereas 65.3% mentioned feeling susceptible based on how drugs and substances were misused in their locality. Among respondents, 66.0% felt susceptible because of how drugs and substances of abuse were sold in the locality.

**Commonly abused drugs.** Alcohol was identified as the most commonly abused

**Table 2.** Perceived frequency of drug and substance use.

| Response    | Number of respondents (N = 400) | Percentage (%) |
|-------------|---------------------------------|----------------|
| None        | 129                             | 32.3           |
| A few       | 115                             | 28.8           |
| Some        | 49                              | 12.3           |
| Most        | 15                              | 3.8            |
| All         | 3                               | 0.8            |
| Don't know  | 73                              | 18.3           |
| Total       | 384                             | 96.0           |
| No response | 16                              | 4.0            |

Results address research question 1: What is the prevalence of drug and substance abuse in tertiary institutions?

**Table 3.** Social and environmental factors that affect drug and substance use.

| Response | (a)Are you part of a clique of friends in which any of these substances are used? | (b) Are there places within your locality where individuals meet to use these substances? | (c) Are there places in your locality where these substances are sold? |
|----------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------|------------------------------------------------------------------------|
| Yes      | 25 (6.3%)                                                                         | 261 (65.3%)                                                                               | 264 (66.0%)                                                            |
| No       | 363 (90.8%)                                                                       | 116 (29.0%)                                                                               | 103 (25.8%)                                                            |
| NR       | 12 (3.0%)                                                                         | 23 (5.8%)                                                                                 | 33 (8.3%)                                                              |

NR, no response.

substance by 61.5% of respondents whereas 54.5% stated that cigarettes were the most commonly used drug, followed by tramadol (35.0%), cough syrup (33.0%), shisha (30.5%) and cannabis (25.5%; Figure 1).

*Factors influencing drug consumption.* Table 4 lists respondents’ stated reasons for drug and substance use. The most common reasons included “to get high” (81.3%), “to help you when you feel depressed or nervous” (65%), to help “to forget about your problems” (65%), “to cheer up when you’re in a bad mood” (64.5%). A total of 59.8% (239) of the respondent chose “not to feel left out”.

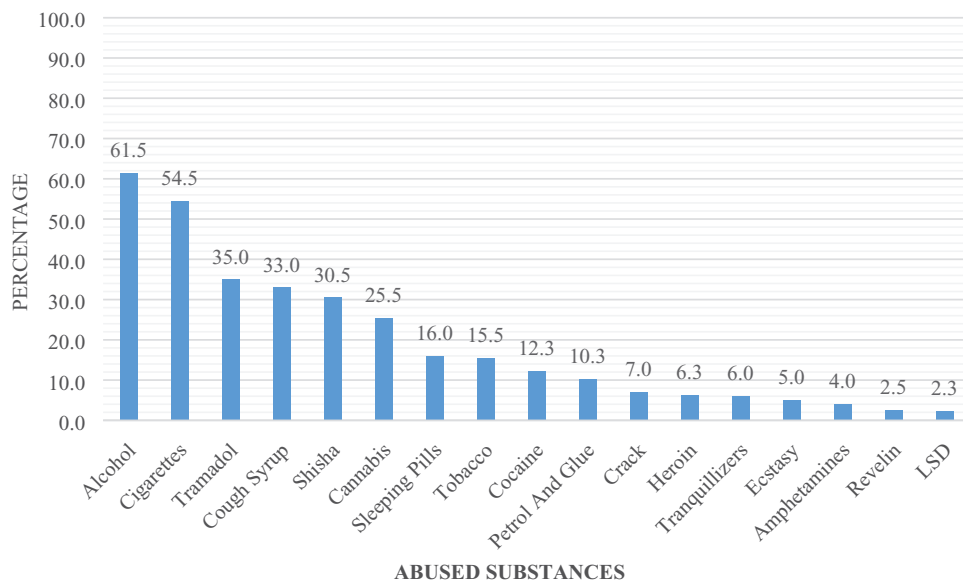
*Awareness of the risk of drug and substance abuse.* Among the 391 (97.5%) respondents who answered this question, the vast majority (79.5%) indicated that drugs and substance abuse have great risk, 14.3% claimed they believed it was moderate risky, whereas 2.5% indicated a slight risk—resulting in an aggregate risk awareness level of 94.6%. (Table 5).

**Discussion**

This study originated from the perceived increasing prevalence of drug and substance abuse in society and the hazard this abuse represents in Nigeria and the world at large. Before the execution of this study, minimal research had been conducted on drug and substance abuse in specific regions of the

country. This study aimed to broaden the scope of drug and substance abuse epidemiology in Nigeria and increase awareness of the effect and availability of these drugs. Because of the cross-sectional design, the study’s primary limitation is its time-specific emphasis; it does not provide information on trends in prevalence and associated factors in the population of interest. Nevertheless, the study provides a snapshot of evidence high-quality empirical information on the prevalence and factors associated with substance abuse within the Nigerian population.

The number of students who indulge in drug and substance abuse is notable. Students are increasingly adopting innovative methods for smuggling these substances into universities in high enough quantities to meet growing demand. This trend may result from the inadequate efforts of security operatives in various Nigerian universities. Study findings supported a 45.7% prevalence of drug and substance abuse among participants. The most abused drug or substance were alcohol (61.5%) and cigarettes (54.5%), likely because these substances are legal for use in Nigeria despite restrictions on use before driving and for minors. Our findings are more recent and more comprehensive than the study of 1000 students by Oshikoya and Alli<sup>17</sup> at Lagos State University, which covered only one institution whereas our study included four representative universities.



**Figure 1.** Substances commonly found in the locality.

The figure shows the types of drugs abused by the university students sampled. Results address research question 2: What types of drugs are commonly abused by students?

**Table 4.** Stated reasons for drug and substance use.

| REASON                                          | SCORE | PERCENTAGE (%) |
|-------------------------------------------------|-------|----------------|
| To get high                                     | 325   | 81.3           |
| It helps you when you feel depressed or nervous | 260   | 65.0           |
| To forget about your problems                   | 260   | 65.0           |
| To cheer up when you are in a bad mood          | 258   | 64.5           |
| Not to feel left out                            | 239   | 59.8           |
| To fit in with a group you like                 | 218   | 54.5           |
| It helps you enjoy a party                      | 206   | 51.5           |
| It makes social gatherings more fun             | 199   | 49.8           |
| It makes for fun                                | 189   | 47.3           |
| You like the feeling                            | 178   | 44.5           |
| It improves parties and celebrations            | 162   | 40.5           |
| To be liked                                     | 141   | 35.3           |

Results address research question 3: What are the factors that influence the consumption of these drugs?

SCORE indicates the number of participants that indicated YES to each reason.

Our study highlighted 12 factors that influence the abuse of drugs and substances. The major factor was “to get high.” The findings are consistent with those of Adekeye et al.’s study.<sup>18</sup> In recent years, the psychological effects of drugs and

substances and the observable increase in abuse have not gone unnoticed. Risk awareness is a key factor in addressing drug and substance abuse. Despite establishing that a large number of respondents understood the risk associated with drug

**Table 5.** Level of the perceived risk of drug and substance use.

| Response      | Number of respondents (N = 400) | Percentage (%) |
|---------------|---------------------------------|----------------|
| No risk       | 2                               | 0.5            |
| Slight risk   | 10                              | 2.5            |
| Moderate risk | 57                              | 14.3           |
| Great risk    | 311                             | 77.8           |
| Don't know    | 11                              | 2.8            |
| No response   | 9                               | 2.2            |

Results address research question 4: What is the risk level associated with drug and substance abuse?

and substance misuse, the study recorded a considerable prevalence of abuse. Therefore, we can postulate that perceived factors that drive drug and substance abuse prevail over risk considerations.

Taking a critical look at the substances that are being abused within the population of interest is important. The top-ranking substances of abuse, alcohol and cigarettes, are generally considered social drugs because they are legally allowed. The majority of the population of interest fell within the age bracket of those allowed to consume these social drugs; this may account for why these substances were the most popular among users. Notwithstanding, this should also be considered alongside other factors that predispose individuals to consume substances to alter their state of mind, to “feel good” or to “get high.” Socioeconomic and environmental factors largely contribute to the use and abuse of these substances in a large percentage of the population.<sup>19,20</sup> A consideration of these factors is therefore critical in any effort to address the threat of drug and substance abuse within the broader population in Nigeria.

Furthermore, the inclusion of tramadol and cough syrup among the five top-ranking substances of abuse is of special

interest. Illegally repurposed and abused as drugs, tramadol and cough syrup are often readily available over the counter and are currently substantially abused despite being medicinal drugs. Codeine-containing syrup is of considerable interest as a substance of abuse.<sup>21</sup> Notably, these drugs now rank higher than other illegal drugs such as cannabis (sixth), tobacco (eighth), cocaine (ninth), heroine (twelfth) and amphetamines (fifteenth) in our study. Interestingly, the aforementioned drugs are priority targets in efforts by stakeholders and government agencies to curb the menace of drug abuse.

In addition, findings indicate a contrast in the hierarchy of importance and popularity of substances of abuse when compared with data obtained approximately three and half decades ago.<sup>22</sup> Although the UNODC<sup>8</sup> and another study<sup>9</sup> rank cannabis as the leading illicit drug or substance of abuse, the present study indicates that codeine-containing syrup and tramadol have overtaken cannabis in importance and popularity among drug abusers in Nigeria. The increasing popularity of these emerging though unconventional substances of abuse necessitates a continuous research effort to uncover the actual state of substance use and drug abuse in the population; effort should be made to address such challenges in an evidence-based manner. Therefore, this research reveals that tramadol and cough syrup, for example, deserve more attention than they have been given considering how popular they have become among users of illicit psychoactive substances. Furthermore, a lack of awareness of the actual state of affairs concerning substance and drug abuse in the community may lead to negligence that can inadvertently but progressively promote the use and abuse of such substances. This in turn can result in the escalation of the problems associated with mental health and social well-being in society.

The five top-ranking reasons for dependence on drugs or substances reported in this study primarily converge on respondents' efforts, however dysfunctional, to address their social and psychological problems or to achieve psychological escape. Importantly, socioeconomic and environmental factors ranked highest as factors that predisposed people within the studied population to substance use and drug abuse. Although efforts that are aimed at curbing the threat of substance abuse should be sustained and enhanced, critical consideration of these socioeconomic and environmental factors can address the vulnerable within these populations. When relevant underlying socioeconomic and psychological problems are addressed, the need to achieve a state of "being high" or attempts to numb emotional pain or burden will dissipate. Given these factors are directly associated with the reason for individuals abusing substances or consuming illegal drugs, we anticipate that addressing these factors can be a fundamental means of tackling the problem of drug abuse within the population.

Furthermore, a consideration of more holistic policies that reduce vulnerabilities that predispose people to craving substances—and not only those aimed at punishing consumers of illegal drugs or restricting access—is critically required. In addition, as previously recommended by Ajayi and Somefun,<sup>20</sup> adequate educational programs that create awareness about the consequences of the consumption of psychoactive agents or a permissive culture that directly and indirectly promotes substance abuse must be considered. A comparison of the current trend with findings from previous studies indicates that the situation might not be static but is rather dynamic and susceptible to trends likely premised on socioeconomic and cultural dynamics. This necessitates implementing a high-quality surveillance system to study these dynamics

and trends to accurately assess the current environment of drug and substance use and to guide the development of effective and tailored solutions at every point in time. This should be a priority in policy and practice, and should also be a key subject of interest in mental health and epidemiology.

## Conclusion

Study findings indicate a substantial prevalence of drug and substance abuse in universities in southwestern Nigeria. Hence, stakeholders—government agencies and private organizations—must contribute to eradicating this threat to prevent further endangerment to society. Effective educational programs and plans to promote the awareness, prevention, avoidance and discontinuation of substance use must be implemented. Institutions of higher learning must establish courses addressing drug and substance abuse to increase awareness of the harmful effects of drugs on individuals and society at large, thereby discouraging the use of drugs and related substances among students. Stronger deterrence measures must be enforced while collaboration between government agencies, stakeholders and universities must be strengthened. Rehabilitation programs for those with a drug addiction should be provided by universities or concerned institutions.

## Author's contributions

Ezekiel Olumide Hamzat is the principal investigator of the study. All the authors made substantial contributions to the study design and the acquisition and interpretation of data. Quincy Osuoya was involved in drafting the research instrument. Richard Bamidele, Babajide Semeton Johnson and Olawumi Feyisike Johnson circulated the questionnaire to various institutions. John Afees Olanrewaju, Maureen Obiageli Udekwu, Ifedolapo Olanrewaju, Joseph Igbo Enya and Joshua Owolabi were involved in drafting the manuscript. All authors

critically revised the manuscript for intellectual content, gave final approval of the version to be published and are accountable for all aspects of the work.

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The authors declare no conflict of interest in preparing this article.

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### ORCID iDs

Maureen Obiageli Udekwu  <https://orcid.org/0000-0001-5424-1350>

Richard Bamidele  <https://orcid.org/0000-0002-4582-149X>

Olawumi Feyisike Johnson  <https://orcid.org/0000-0002-4572-1616>

Joshua Oladele Owolabi  <https://orcid.org/0000-0003-2880-9701>

### References

- Idowu A, Aremu AO, Olumide A, et al. 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* 2018; 18: 776–785.
- Fagbe AO. Information behaviour and substance use among Undergraduates in Babcock University, Ogun State, Nigeria. *European Journal of Psychological Research* 2019; 6: 2057–4794.
- Ritchie H and Roser M. Opioids, cocaine, cannabis and illicit drugs. *Our World in Data*. 2018; *Published online at OurWorldInData.org*. Retrieved from: 'https://ourworldindata.org/illicit-drug-use'.
- Onoja MO. Prevalence of Substance Abuse Among Secondary School Students—A Comparative Study of Government and Private Secondary Schools in Jos, Nigeria. *National institute of health* 2010. Available at: <https://nida.nih.gov/international/abstracts/prevalence-substance-abuse-among-secondary-school-students-comparative-study-government-private>.
- World Health Organisation. Management of substance abuse: Facts and Figures. Retrieved from [https://www.who.int/substance\\_abuse/facts/en/](https://www.who.int/substance_abuse/facts/en/) 9th November, 2019; 2019.
- Erhun WO, Babalola OO and Erhun MO. Drug regulation and control in Nigeria: The challenge of counterfeit drugs. *Journal of Health & Population in Developing Countries* 2001; 4: 23–34.
- Essien CF. Drug use and abuse among students in tertiary institutions – the case of Federal University of Technology, Minna. *Journal of Research in National Development* 2010; 8: 35–42.
- UNODC. Drug Use in Nigeria 2018, United Nations Office on Drugs and Crime, Vienna. Available at [https://www.unodc.org/documents/data-and-analysis/statistics/Drugs/Drug\\_Use\\_Survey\\_Nigeria\\_2019\\_BOOK.pdf](https://www.unodc.org/documents/data-and-analysis/statistics/Drugs/Drug_Use_Survey_Nigeria_2019_BOOK.pdf). 2018.
- Adamson TA, Ogunlesi AO, Morakinyo O, et al. Descriptive National Survey of Substance Use in Nigeria. *J Addict Res Ther* 2015; 6: 234. doi:10.4172/2155-6105.1000234.
- Pharmapproach. NAFDAC: The National Agency for Food and Drug Administration and Control- Activities and Interventions In Control of Fake Drugs. Retrieved from <https://www.pharmapproach.com/nafdac-activities-and-interventions-control-fake-drugs/#> 14th May, 2020.
- Ibiyemi TS. On admission subscription enhancement model for Nigerian private university. Retrieved from <https://awau.org/media/files/5e4d4dead5a36.pdf> 19th April, 2020.
- Allan C. What is the purpose of a university? Retrieved from <https://www.pearson.com/uk/educators/higher-education-educators/course-development-blog/2018/04/what-is-the-purpose-of-a-university-.html> on 16 January, 2020.
- Osman T, Victor C, Abdulmoneim A, et al. Epidemiology of substance use among university students in Sudan. *J Addict* 2016; 2016: 2476164. doi: 10.1155/2016/2476164.
- Fareo DO. Drug abuse among Nigerian adolescents strategies for counseling.

- Journal of International Social Research* 2012; 5: 341–347.
15. Hassan ZA, Schattner P and Mazza D. Doing a pilot study: why is it essential? *Malays Fam Physician* 2006; 1: 70–73.
  16. Von Elm E, Altman DG, Egger M, et al. The Strengthening the Reporting of Observational Studies in Epidemiology (STROBE) statement: guidelines for reporting observational studies. *Ann Intern Med* 2007; 147: 573–577.
  17. Oshikoya KA and Alli A. Perception of drug abuse amongst Nigerian undergraduates. *World Journal of Medical Sciences* 2006; 1: 133–139.
  18. Adekeye OA, Adeusi SO, Chenube O, et al. Assessment of alcohol and substance use among undergraduates in selected private universities in Southwest Nigeria. *IOSR Journal of Humanities and Social Science* 2015; 20: 1–7.
  19. Humensky JL. Are adolescents with high socioeconomic status more likely to engage in alcohol and illicit drug use in early adulthood? *Subst Abuse Treat Prev Policy* 2010; 5: 19.
  20. Ajayi AI and Somefun OD. Recreational drug use among Nigerian university students: Prevalence, correlates and frequency of use. *PLoS ONE* 2020; 15: e0232964. <https://doi.org/10.1371/journal.pone.0232964>.
  21. Akande-Sholabi W, Adisa R, Ilesanmi OS, et al. Extent of misuse and dependence of codeine-containing products among medical and pharmacy students in a Nigerian University. *BMC Public Health* 2019; 19: 1709. <https://doi.org/10.1186/s12889-019-8074-5>.
  22. Ihezue UH. Drug abuse among medical students at a Nigerian university: Part 1. Prevalence and pattern of use. *J Natl Med Assoc* 1988; 80: 81–85. PMID: 3257527; PMCID: PMC2625685.