



Evaluation of Awareness, Prevalence and Factors Affecting Substance Use among Recent University Graduates in Nigeria

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Authors' contributions

This work was carried out in collaboration among all authors. All authors read and approved the final manuscript.

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ABSTRACT

Background: Substance use among the adolescent and young adult population in society is a phenomenon that has been widely studied but remains of interest due to its potential consequences. In Nigeria, recent graduates from both government and private universities are mobilized to different states outside their state of origin for a one-year national youth service corps (NYSC) program during which they are deployed to different places of primary assignment. Drug abuse usually leads to behavioral and psychiatric disorders. Thus, this study was done to ascertain the level of awareness, prevalence and factors associated with substance use among the recent university graduates in Nigeria - focusing on those who are currently undergoing national youth service program.

Methods: A cross-sectional and descriptive survey was conducted among current NYSC members across 17 selected states in Nigeria including the federal capital territory for the duration of two

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months between April 2022 and August 2022. A study questionnaire was electronically administered to the respondents through social media platforms across 17 randomly selected States in Nigeria. Data collected were coded and abstracted into the Microsoft Excel Spreadsheet and thereafter transcribed into the Statistical Package for the Social Sciences (SPSS) version 23 for Windows for final analysis. Simple descriptive statistics including counts and percentages (%) were reported for categorical data.

Results: Total of 2200 respondents representing 95.7% of the sample size (2300) completed this survey. More males (57.8%) than female (42.2) within the age brackets of 20-25 years (48.6%) and 26-30years (51.4%) participated with Lagos (49.5%), Kaduna (16.5%) and Enugu (4.6%) states leading in the number of respondents. Majority of the respondents (68.8%) are in health-related disciplines with an average monthly income between 10 to 100 thousand naira. Our result showed that a 96.3% of the participants learned about substance abuse largely through the social media (40.3%) and studies in school (34.7%) and have awareness of the different substances of abuse including marijuana (29.1%), alcohol (26.3%), opioids (11.4%), cigarettes (10.9%) and Benzodiazepines and methamphetamine with percentages of 5.7% and 8.6% respectively. Among the substance of abuse users, peer pressure (20%), curiosity (20%) and to relieve stress (30%) are major reasons for first indulgence while relaxation (50%) and euphoria (30%) are the most important reasons for continued use. Only a few experienced side effects ranging from body pain and weakness (18.2%) to intoxication (18.2%) to vomiting (18.2%).

Conclusion: Majority of our respondents have the knowledge about substance abuse. However, only a few have indulged in substance abuse because of stress, curiosity, peer pressure or attempt to achieving physical or mental relaxation. Hence, there's a need for comprehensive control programs targeted at young people that focuses essentially on the youths' psychoeducation, substance abuse and related negative consequences, promotion of 'after school' life skills, as well as family integration and peer-based preventive interventions.

Keywords: Substance; use; prevalence; awareness; pattern; graduates; youth; Nigeria.

1. INTRODUCTION

According to the 2018 world population data sheet focusing on changing age structures, the world's youth population will increase from 1.2 billion to 1.4 billion by 2050 [1]. While a United Nations report indicated that persons younger than 25 years constitute about 60% of the African population [2]. Still, it was projected that Africa's youth population which currently is 20% of the world's youth will rise to 35% by 2050 [3]. In Nigeria, according to the United Nations Population Fund, youth constitute more than 63% of the population [4]. With the increasing youth population in Nigeria, the significance of understanding their health status and the factors that affect their health especially negatively comes to the fore.

Substance use has been defined as "the use of drugs or alcohol, and includes substances such as cigarettes, illegal drugs, prescription drugs, inhalants and solvents" [5]. It has been identified that the impacts of substance use include the negative health consequences and the heavy financial burden on persons, families and society at large [6]. Equally, substance use has been recognized as a major public health concern

worldwide, especially in low- and middle-income countries [7,8].

Lately, trends indicate that substance use has intensely increased especially in developing countries [9,10]. Even though, there is widespread information and education on psychoactive substances, there is inadequate awareness of their negative consequences among some youth [11]. Substance use leads to decreased work, increased risk of contracting sexually transmitted diseases, violent crime, theft, accidents, intoxication while working, absenteeism at work, and other psychiatric disorders, overall substance use decreases the quality of life [10,12].

In a study in Ethiopia on substance use among university students about 73.7% of the study respondents have used at least a substance once. More so, the lifetime use of alcohol is 68.2%, cigarettes (46.1%), and illicit drugs (23.3%) [13]. In another study on university students, the lifetime prevalence of alcohol drinking was 34.5% and cigarette smoking was 9.5%. While the prevalence of alcohol intake was 27.9% and cigarette smoking was 9.3% [14]. While a study among college students in Kenya indicated a lifetime prevalence rate of 68.9% of

any substance use, and that of alcohol and cigarette use were 51.9% and 42.8% respectively [15].

In Nigeria, there is variation in the prevalence of substance use according to areas and the population group in question. However, youth in rural areas have been reported to have a lesser prevalence compared to youth in urban areas, and girls have a lesser rate of substance use than boys [16]. In South-West Nigeria lifetime prevalence of substance use ranges from 21–23% [17]. Though, there is social acceptability and widespread availability of alcohol and tobacco to youth in most Nigerian societies [18].

Gender, social class, peer pressure, religiosity, relationship with family members, family use of substances and even favorable community norms among other socio-demographic factors have been found to contribute to substance use [15-18]. While some of the reasons were for relaxation 65.5% and to relief stress 37.7% respectively. Similarly, studies have shown that caffeine, alcohol, and tobacco are the most used substances [8,15].

Several studies in Nigeria mainly focused on secondary school and university students. The transition from university to the labor market, which the Nigeria's National Youth Service Corps (NYSC) scheme comes between is critical, because the period of the NYSC scheme can be associated with depression as a result of dwindling job opportunities and family and some societal expectations, which may inform deriving satisfaction from psychoactive substances. Therefore, understanding the extent of substance use among this bulging, critical population, which will constitute the next entry-level workers and become part of Nigeria's public and private sectors workforce is crucial. Furthermore, it will contribute to the pool of data on substance use in Nigeria and it will also aid policy-makers and key stakeholders in making evidence-based, data-driven decisions on this issue. This study aimed to determine the awareness, pattern of use and effect of substance use among National Youth Service Corps Members in Nigeria.

2. METHODOLOGY

2.1 Study Design and Sampling Technique

This was a cross-sectional survey of male and female, corps members in Nigeria. A simple Random sampling was used to select 17 states in Nigeria including the federal capital territory

followed by a convenient sampling technique to recruit the study participants.

2.2 Study Instrument and Administration

The questionnaire for the research was developed in consultation with scientific literature and the local context. The questionnaire was pre-tested among 10 academics and social researchers to examine face validity, readability, and comprehensibility. The final questionnaire consisted of 22 items divided into 3 sections. The first section elicited information related to the sociodemographic characteristics of the respondents while the second section contains questions on awareness of substance abuse. The prevalence and pattern of substance use were measured in the third domain while the fourth section probed for the effect of substance use. The questionnaire was translated into a google form and electronically administered to the respondents within 17 randomly selected States in Nigeria using social media platforms particularly, WhatsApp, Telegram, and Facebook since they form a suitable platform for disseminating information in Nigeria. Data for the study were collected between April 2022 and August, 2022 and a total of 2200 consented respondents completed and returned the questionnaire.

2.3 Data Analysis

The data collected were coded and abstracted into the Microsoft Excel Spreadsheet and thereafter transcribed into the Statistical Package for the Social Sciences (SPSS) version 23 for Windows for final analysis. Simple descriptive statistics including counts and percentages (%) were reported for categorical data.

2.4 Inclusion Criteria

Only currently serving national youth service corps members (individuals who completed their undergraduate studies in last 1 to 3 years), selected from 17 states in Nigeria were involved in the study.

3. RESULTS

3.1 Sociodemographic Characteristics

A response rate of 95.7% was obtained after deployment of the questionnaire. Our study population was made of more males (57.8%) than females (42.2%) within the age brackets of 20-25 years (48.6%) and 26-30 years (51.4%). The respondents were mainly Christians (81.7%) of the Igbo (33.9%) and Yoruba (31.2%). The

Corp members are serving in 18 states across the country including the federal capital territory with highest numbers of respondents from Lagos (49.5%), Kaduna (16.5%) and Enugu (4.6%) States. Among the participants, 68.8% completed their undergraduate in health-related programs while the remaining group (31.2%) came from non-health disciplines. The average monthly income of the respondents' rests between 10,000 to 100,000 naira; 41.3% earns between 10,000 and 50,000 while 38.5% earns between 50,000 and 100,000.

3.2 Awareness of Substance Abuse

Knowledge of substance abuse is high. A very high number among the respondents (96.3%) have heard of substance abuse or had information related to it. Social media (40.3%) and studies in school (34.7%) ranks as the first and second among the sources of awareness of substance abuse. In this category, public awareness campaigns accounted for only 5.6%. The respondents' awareness of the different substances of abuse is highest for marijuana (29.1%) followed by alcohol (26.3%), then opioids (11.4%) and cigarettes (10.9%). Benzodiazepines and methamphetamine awareness are the least with percentages of 5.7% and 8.6% respectively.

3.3 Prevalence and Pattern of Substance Abuse

Majority of the respondents are non-users of Substances of abuse (90.8%). Among the users, peer pressure (20%), curiosity (20%) and to relieve stress (30%) are major reasons for first indulgence in substance abuse. Relaxation (50%) and euphoria (30%) are among the most important reasons for continued use among the users. Frequency of substance Use is poor with 50% of the users using it occasionally and then the others (50%) rarely using it.

3.4 Effects of Substance Abuse

Among the users, 60% had a spontaneous effect which is mostly a feeling of being high (50%). Only a few experienced side effects ranging from body pain and weakness (18.2%) to intoxication (18.2%) to vomiting (18.2%). The use of these substances had negligible effects on the users.

4. DISCUSSION

The present study examined the level of awareness, prevalence and determinants of Substance Abuse among Serving Corp members in Nigeria. The NYSC program was established by the federal government of Nigeria to foster national integration and cohesion. As nation with diverse ethnic and religious groups, the national youth service program provides fresh eligible graduates from tertiary education levels an opportunity to explore the country's abundant human diversities. It creates a platform for networking and prepares participants for transition into the labour market. It is therefore paramount that individual captured in this demography are free from drug abuse as this may hamper their prospects as the nation's future leaders. The overall awareness of substance abuse is high (96.3%) while the prevalence and pattern of use is low with less than 10% users (90% nonusers). The study population had a male: female ratio of 1.37:1 majority of whom are Christian's. Commonest substances of abuse are alcohol (80% of drug users) and "over the counter" (OTC) drugs (20% of users). We also found out that the reasons for the initial and continued use of substance of abuse includes peer pressure (20%), relieve of stress (20%), relaxation and euphoria (50%). Also, side effects experienced by users are minor including pain/body weakness and intoxication. Few had reduced productivity at work (9.1%) and loss of Interest in activities previously enjoyed (18.2%) while a vast majority experienced no effect (72.7%).

Table 1. Sociodemographic characteristics

Socio-demographic characteristics	Number	Percentage (%)
Age (years)		
Less than 20	0	0.0
20-25	1060	(48.6)
26-30	1120	(51.4)
Gender		
Male	920	(42.2)
Female	1260	(57.8)
Religion		
Islam	380	(17.4)

Socio-demographic characteristics	Number	Percentage (%)
Christianity	1780	(81.7)
Others	20	(.9)
Ethnicity		
Hausa	140	(6.4)
Yoruba	680	(31.2)
Igbo	740	(33.9)
Others	620	(28.4)
Which State are you currently serving?		
Lagos	1080	(49.5)
Enugu	100	(4.6)
Anambra	20	(.9)
Abuja	160	(7.3)
Akwa Ibom	40	(1.8)
Oyo	100	(4.6)
Niger	20	(.9)
Kaduna	360	(16.5)
Rivers	20	(.9)
Adamawa	80	(3.7)
Delta	20	(.9)
Cross river	20	(.9)
Jigawa	20	(.9)
Taraba	20	(.9)
Nasarawa	40	(1.8)
Ekiti	40	(1.8)
Kano	40	(1.8)
Is your field of study related to health?		
Yes	1500	(68.8)
No	680	(31.2)
What is your average monthly income (in Naira)?		
Less than 10,000	140	(6.4)
11,000-50,000	900	(41.3)
51,000-100,000	840	(38.5)
Greater than 100,000	300	(13.8)

Table 2. Awareness of substance use

Have you heard of substance abuse?	Frequency	Percentage
Yes	2100	(96.3)
No	80	(3.7)
What is your sources of information on substance use?		
Social media	1000	40.3
School	860	34.7
Friends	140	5.6
Public awareness campaign	140	5.6
Place of worship	80	3.2
Mass media	240	9.7
Others	20	0.8
Which of the following substances are you aware of?		
Alcohol	920	26.3
Cigarette	380	10.9
Marijuana	1020	29.1
Opioids	400	11.4
Methamphetamine	300	8.6
Benzodiazepines	200	5.7
Over the counter drugs (antitussives, antihistamines, caffeine)	280	8.0

Table 3. Prevalence and pattern of substance use

Prevalence and pattern of substance use	Frequency	Percentage
*Are you currently using at least one substance?		
Yes	200	(9.2)
No	1980	(90.8)
Which substance are you currently using?		
Alcohol	160	(80)
Over the counter drugs total 10	40	(20)
What is your reason for first indulgence in substance use?		
Peer pressure	40	(20.0)
Curiosity	40	(20.0)
Social media influence	20	(10.0)
To relieve stress	60	(30.0)
Others Total 10	40	(20.0)
What is your reason for continued use of the substance?		
Euphoria/pleasure	60	(30.0)
Temporary relief	40	(20.0)
Relaxation Total 10	100	(50.0)
What is your frequency of substance use?		
Rarely	100	50.0
Occasionally	100	50.0
Daily	0	0
Weekly	0	0
Monthly	0	0

Table 4. Effects of substance use

*Effects of substance use	Frequency	Percentage
Have you had a spontaneous effect?		
Yes	120	(60.0)
No	80	(40.0)
*What is the nature of the spontaneous effects?		
Felt relieved	20	10
Felt dizzy	20	10
Felt high	100	50.0
None	60	30.0
*Do you experience any side effect?		
Yes	60	(30.0)
No	140	70.0
*What are the side effects did you experienced??		
Body pain and weakness	40	18.2
Intoxication	40	18.2
Oversleeping	20	9.1
Vomiting	40	18.2
None	80	36.4
*Has the use of substance affected your life?		
Yes	0	0
No	200	100.0
*How has the use of substance affected your life?		
It has reduced my productivity at work	20	9.1
I have lost interest in previously enjoyable activities	20	9.1
I do not socialize again as before	20	9.1
I have had troubles with authorities	0	0
None	160	72.7

5. INTERPRETATION/GENERALIZABILITY

The age bracket of the participants is consistent with the age of youths serving in the Nigerian National Youth Service Corps (NYSC) program. This is also the age bracket most at risk of substance or drug abuse as reported in studies [19–24]. The overall awareness of substance abuse among our study population is high (96.3%). This is consistent with findings from similar works among university undergraduate Students [25,26]. This might be due to the impact of the one-month orientation camp on the knowledge of substance abuse among Youth corpsers. Also, a higher proportion of the participants studied health related fields in the university, which could also have positively influenced their level of awareness.

The Corp members had their highest source of awareness from social media followed by knowledge back in school. This is contrary to results in studies involving undergraduate students in which newspaper, radio and television are the chief sources of information. This disparity reflects the level of exposure and access to mobile devices and technology including finances for data subscription among Corps members which are not possible with undergraduate Students [27].

The prevalence of substance use is low (90% non-users) compared to other studies in Nigeria [28], Kenya [29], Sudan [30] and Cameroon [31]. This difference may be attributed to the various criteria used to assess substance use among the different studies. Also, the period of National Youth service is a transition from undergraduate life to the competitive society with acute scarcity of jobs. That comes with more responsibility and focus, and less indulgence. This might have also plunged the prevalence of substance use among the corps members. The low level of prevalence of substance abuse is also correlated with high awareness among participants of drugs of abuse and their negative consequences. This is true as in other studies in which lower substance uses are observed as knowledge and awareness increases [32-34].

Reasons for indulgence in substance use among the few users are mainly out of curiosity and peer pressure. These factors have been cited as major reasons for high substance use in other works [33]. Considering the low level of substance use among the participants, and the abuse of only alcohol and OTC drugs among users, the absence of marked side effects among the participants is not surprising.

6. CONCLUSION

There was generally a low prevalence of substance abuse among the recent University graduates who are currently serving National youth corps members in Nigeria. Those who identify as users of drug of abuse stated that stress, curiosity, peer pressure or attempt to achieving physical or mental relaxation or euphoria were the major reasons for initial or continued use or indulgence. Hence, there's a need for comprehensive control programs targeted at educating both the adolescents and young adults on substance abuse and related negative consequences, promotion of 'after school' life skills, as well as family integration and peer-based preventive interventions.

7. LIMITATIONS

We were not able to gather data from all our sample population, hence, our finding cannot be generalized. Additionally, the data collection was done within a few months of duration. A longer duration would have perhaps increased our data pool and covered some socio-demographic disparities which might have influenced the outcomes of our findings.

CONSENT

Participation in the survey was based on informed consent. Data were provided completely anonymous with no personal information collected from the respondents.

ETHICAL APPROVAL

It is not applicable.

FUNDING SUPPORT

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COMPETING INTERESTS

Authors have declared that no competing interests exist.

REFERENCES

1. World population data sheet with focus on changing age structures 2018: PRB. Accessed; 2022.
Available:<https://www.prb.org/2018-world-population-data-sheet-with-focus-on-changing-age-structures/>
2. World population prospects. Key findings and advance tables. New York, NY: United Nations; 2017.
3. World population data sheet 2017: Prb.org. Published 2017. Accessed; 2022.
Available: <https://www.prb.org/2017-world-population-data-sheet/>
4. UNFPA-United Nations Population Fund 2022: world data population. www.unfpa.org. Accessed August; 2022.
Available:<https://www.unfpa.org/data/world-population/NG>
5. Substance Use 2017: HealthLink BC. Accessed August; 2022.
Available: www.healthlinkbc.ca.
<https://www.healthlinkbc.ca/mental-health-substance-use/substance-use>
6. World Health Organization. Substance Abuse. 2017: WHO regional office for Africa. Accessed August; 2022.
Available:<https://www.afro.who.int/healthtopics/substance-abuse>
7. WHO report on the global tobacco epidemic 2011: Warning about the Dangers of Tobacco. Accessed August; 2022.
Available:https://apps.who.int/iris/bitstream/handle/10665/44616/9789240687813_eng.pdf?sequence=1&isAllowed=y
8. Afolabi MO, Ayilara AE, Akinyemi OA, Ola-Olorun OJ. Survey of drug use among young people in Ife, Nigeria. *African Journal of Drug and Alcohol Studies*. 2022;11(2).
Available:<https://doi:10.4314/ajdas.v11i2>
9. Odejide AO. Status of drug use/abuse in Africa: a review. *International Journal of Mental Health and Addiction*. 2006;4(2):87-102.
Available:<https://doi:10.1007/s11469-006-9015-y>
10. Deressa W, Azazh A. Substance use and its predictors among undergraduate medical students of Addis Ababa University in Ethiopia *BMC Public Health*. 2011;11(1).
Available:<https://doi:10.1186/1471-2458-11-660>
11. Oshodi O, Aina O, Onajole A. Substance use among secondary school students in an urban setting in Nigeria: prevalence and associated factors. *African Journal of Psychiatry*. 2010;13(1).
Available:<https://doi:10.4314/ajpsy.v13i1.53430>
12. Kebede Y, Abula T, Ayele B. Substance abuse for the Ethiopian health center team; 2005.
Accessed August 18, 2022.
Available: https://www.cartercenter.org/resources/pdfs/health/ephti/library/modules/Degree/Mod_Substance_Abuse_final.pdf
13. Shegute T, Wasihun Y. Prevalence of substance use in university students, Ethiopia substance abuse: research and treatment. 2021;15:117822182110035.
Available:<https://doi:10.1177/11782218211003558>
14. Gebreslassie M, Feleke A, Melese T. Psychoactive substances use and associated factors among Axum university students, Axum Town, North Ethiopia. *BMC Public Health*. 2013;13(1).
Available: <https://doi:10.1186/1471-2458-13-693>
15. Atwoli L, Mungla PA, Ndung'u MN, Kinoti KC, Ogot EM. Prevalence of substance use among college students in Eldoret, western Kenya. *BMC Psychiatry*. 2011;11(1).
Available: <https://doi:10.1186/1471-244x-11-34>
16. Atilola O, Ola B, Abiri G. Service and policy implication of substance use disorders among adolescents in juvenile correctional facilities in Lagos, Nigeria. *Global Mental Health*. 2016;3.
Available: <https://doi:10.1017/gmh.2016.25>
17. Atilola O, Ayinde O, Adeitan O. Beyond prevalence and pattern: problematic extent of alcohol and substance use among adolescent in Ibadan South-west Nigeria. *African Health Sciences*. 2013; 13(3).
Available: <https://doi:10.4314/ahs.v13i3.37>

18. Abdulkarim AA, Mokuolu OA, Adeniyi A. Drug use among adolescents in Ilorin Nigeria. *Tropical Doctor*. 2005;35(4):225-228.
Available: <https://doi:10.1258/004947505774938620>
19. IC A, KEO N. Social correlatives of drug use among secondary school students in Port-harcourt, southern Nigeria. *Sahel Medical Journal*. 2000;3(2):87-92.
20. Fatoye FO, Morakinyo O. Substance use among secondary school students in rural and urban communities in south Western Nigeria. *East African Medical Journal*. 2002;79(6).
Available: <https://doi:10.4314/eamj.v79i6.8849>
21. Adelekan ML, Abiodun OA, Imouokhome-Obayan AO, Oni GA, Ogunremi OO. Psychosocial correlates of alcohol, tobacco and cannabis use: findings from a Nigerian university Drug and Alcohol Dependence. 1993;33(3):247-256.
Available: [https://doi:10.1016/0376-8716\(93\)90111-3](https://doi:10.1016/0376-8716(93)90111-3)
22. Manyike PC, Chinawa JM, Chinawa AT, Obu HA, Nwokocha ARC, Odetunde OI. Correlates for psycho-active substance use among boarding secondary school adolescents in Enugu, South East, Nigeria. *BMC Pediatrics*. 2016;16(1).
Available: <https://doi:10.1186/s12887-016-0615-9>
23. Adeyemo FO, Ohaeri B, Okpala PU, Oghale O. Prevalence of drug abuse amongst university students in Benin City, Nigeria. *Public Health Res*. 2016;6(2):31-3.
24. Gudaji M, Habib Z. Socio-demographic factors associated with psychoactive substance use among commercial motorcycle operators in Kano, Nigeria. *Open J Psychiatr*. 2016;06(01):76-85.
Available: <https://doi:10.4236/ojpsych.2016.61009>
25. Musa A, Abdullahi Y, Salihu M. Assessment of knowledge and prevalence of drugs and substance abuse among the students of a selected tertiary health institution in Kano, Nigeria. *International Journal of Advances in Medicine*. 2021;8(8):1032.
Available: <https://doi:10.18203/2349-3933.ijam20212854>
26. Akinsefunmi B, Rita O, Aminat H, Rufus B. Assessment of substance abuse among students of college of health sciences and technology. *Global J Med Res*. 2016;16:4.
27. Metuge C, Dzudie A, Ebasone P. Prevalence and factors associated with substance use among students in tertiary institutions in Buea, Cameroon. *Pan African Medical Journal*. 2022;41.
Available: <https://doi:10.11604/pamj.2022.41.103.29272>
28. Ohale I, Okafor C, E N. Socio-demographic determinants of psychoactive substance use among students of tertiary institutions in Imo State, Nigeria. *Journal of Addiction Research and Therapy*. 2017;08(05).
Available: <https://doi:10.4172/2155-6105.1000345>
29. Atwoli L, Mungla P, Ndung'u M, Kinoti K, Ogot E. Prevalence of substance use among college students in Eldoret, Western Kenya. *BMC Psychiatry*. 2011;11(1).
Available: <https://doi:10.1186/1471-244x-11-34>
30. Osman T, Victor C, Abdulmoneim A. Epidemiology of substance use among university students in Sudan. *J Addict*. 2016;6:1-8.
Available: <https://doi:10.1155/2016/2476164>
31. Mbanga C, Efié D, Aroke D, Njim T. Prevalence and predictors of recreational drug use among medical and nursing students in Cameroon: a cross sectional analysis. *BMC Res Notes*. 2018;11(1).
Available: <https://doi:10.1186/s13104-018-3631-z>
32. Dumas PH, Ajayi OH. Substance abuse: prevalence and the determinant factors among youths in Jigwada Area, Nasarawa State, Nigeria. *International Journal of Management, Social Sciences, Peace and Conflict Studies (IJMSSPCS)*. 2021;4(3):193–210.
33. Didarloo A, Pourali R. university students' views regarding reasons for drug abuse among youths. *International Journal of High Risk Behaviors and Addiction*. 2016;5(1).
Available: <https://doi:10.5812/ijhrba.24778>

34. Ilomuanya M, Amaeze O, Umeche C, Mbata U, Shonekan O, Olajide A. Direct medical cost of treating substance use disorders in two tertiary hospitals in South-West, Nigeria: A cross-sectional study. *Journal of Addiction*. 2022;8. Available:<https://doi.org/10.1155/2022/6320141>

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