Canadian Journal of Family and Youth, 16 (1), 2024, pp. 16-37
ISSN 1718-9748© University of Alberta
http://ejournals,library,ualberta.ca/index/php/cjfy

Prevalence and Causes of Drug Abuse among Youth-Recipients of School-Based Drug Education Programs: A Mixed-Method Study

Adaobiagu Nnemdi Obiagu and Afamuefuna Victor Onele

Abstract

This study investigated the impact of school-based drug education programs on drug use behavior through examining the prevalence and causes of drug abuse and addiction among youth-recipients (16-30 years) of drug education (DE) programs in Nigeria. A concurrent embedded mixed-method design was adopted for the study and data were collected with a questionnaire and an interview schedule on drug use behaviors. Results showed that drug abuse prevalence ranged from 3.8% for cocaine to 23.7% for alcohol, with daily addiction levels ranging from 1.3% to 5.0%. Depression, peer pressure, and social/economic hardships cause drug abuse. Drug education and gender influence drug use behavior. Drug abusers possess health, social, legal, and moral knowledges about drug use, with youth drug-abusers redefining responsible use by promoting the notion of "civilized use". The study concluded that mainstream curricular drug prevention programs have little impact on drug use behavior since its recipients still abuse drugs. Drug education research, policy, and practice implications of the findings were discussed.

Keywords: psychoactive substances, drug abuse, drug addiction, drug education, Nigeria

Adaobiagu Obiagu is an educator and a lawyer. She is a lecturer in the Department of Social Science Education, University of Nigeria. Her research interests include contemporary issues, gender, citizenship, human rights, and peace education. She has authored and co-authored papers in these research areas. She can be reached on adaobiagu.obiagu@unn.edu.ng. ORCID: https://orcid.org/0000-0002-8591-0489.
Victor Onele is a postgraduate student in the of Department of Social Science Education, University of Nigeria. His research interests include social studies education and global citizenship education. He can be reached on victoronele67@gmail.com.
Acknowledgements: The earlier draft of this paper was presented at the Centre for Research and Information on Substance Abuse (CRISA) 5th Biannual National Symposium on Drugs and Drug Policy in Nigeria and benefited from participants' comments. We are grateful to the United Nations Office on Drugs and Crime (UNDOC) for sponsoring our presentation of the earlier draft of this paper at the CRISA Symposium. Thanks to the participants of our study who made this study possible.

Introduction

How much impact does school-based mainstream drug education program have on drug use behavior? An answer to this question is needed to understand what works in drug education –a non-punitive approach to drug use prevention and harm reduction. An answer is important because irresponsible substance use, and its associated drug disorders, is rising in Nigeria despite increased drug awareness campaign. According to UNODC (2019), 14.4 percent of people aged 15-64 in Nigeria used drugs in 2018 and about three million persons who used drugs suffered a drug-related disorder. Globally, over 36 million people suffered from drug-related disorders in 2021 (UNODC, 2021). Youths, identified as people aged 15 to 35, are more likely to abuse drugs (UNODC, 2018). Drug abuse, used interchangeably as substance abuse, is the use of drugs for a purpose for which it is not meant for or without expert prescription or 'the use of psychoactive substance for non-medical purposes [or excessively]' (UNODC, 2019). It is defined in this study as the irresponsible use of alcohol, smoking, and other psychoactive drugs like cannabis, heroin, cocaine, and pharmaceutical opioids such as codeine. Drug addiction, on the other hand, implies an individual's dependence on drugs for daily functioning and as solutions for personal challenges. This study focused on these two drug use behaviors: drug abuse and addiction.

Drug abuse is associated with social and psychological problems such as increased crime rates (e.g., rape, murder, cultism etc.), accidents, low self-esteem, and self-respect, and becoming a social outcast and bringing shame to one's kin. Relations of drug users are most likely to face an economic downturn, domestic violence, and stigma. For example, alcoholism and the use of stimulant drugs result in intimate partner violence and economic abuse where drug users steal family resources to buy drugs (Gilchrist et al., 2019; Nwabunike & Tenkorang, 2017). Health wise, drug abuse can cause mental illness, chronic diseases such as schizophrenia, organ failure, heart disease, high blood pressure, diabetes, chronic pain, and even death (Chikere & Mayowa, 2011; Graham et al., 2011; UNODC, 2019). It can further lead to sexual risky behaviors that make drug abusers vulnerable to diseases such as HIV, hepatitis B virus (HBV), and hepatitis C virus (HCV) (Degenhardt et al., 2017). These consequences of drug abuse are the reasons behind efforts to reduce or eliminate it.

This study is focused on the mainstream educational effort to tackle drug abuse in Nigeria, that is, the drug prevention education program introduced into the mainstream curricular of three compulsory school subjects (physical and health education, social studies, and civic education) across primary and secondary schools in 2007 in Nigeria. Notably, Nigeria's mainstream drug intervention education is framed from a universal perspective and involves the prevention of drug abuse through enlightening learners or people on the types of psychoactive substances, the risk factors of using them, the dangerous consequences of using them, and the prevention of drug demand, supply, and consequences. Particularly, Secondary class 2 social studies curriculum covers drug abuse topic in-depth: emphasizing the meaning, causes, consequences and prevention and solutions of drug abuse (Nigerian Educational and Research Development Council [NERDC], 2018). Primary 5 and Primary 6 physical and health education curricula emphasized the list of the most abused drugs (e.g., alcohol, tobacco, heroin, cocaine, valium, madrax, indian hemp and herbal medicine among others) as well as the meaning, causes, consequences, and solutions of drug abuse (see NERDC, 2012a). Drug use and abuse is also extensively emphasized in Secondary class 5 civic educa-

tion curriculum (see NERDC, 2012b). Despite the implementation of these programs for over a decade, extant drug literature across Nigerian states show a prevalence of drug use and growing addiction level among youths (Anyanwu et al., 2016; Soremekun et al., 2020). The rising cases of drug abuse questions the effectiveness of the drug prevention education program. Hence, this study sought to draw on the self-report responses of 92 youths, including those who took the program, about their use of drugs to investigate the possible impact of the mainstream school drug education program on Nigerian youths, with a purview to understand whether youths who received drug education abuse drugs and why as well as how to make drug education more effective. Next section reviews relevant previous studies.

Relationship between Drug Education Programs and Drug Use Knowledge and Behavior

Little knowledge exists on the impact of drug intervention education programs on drug use behaviors in Nigeria. Idowu et al.'s (2018) study of 249 senior secondary students in Oyo State, Nigeria was not specific about these programs. It found that only 29.7% of students who abuse drugs reported ever receiving lectures on substance abuse at school. An analysis done with self-reported responses of 2,685 students aged 10-15.5 (1,121 students in the intervention arm and 1,564 students in the control arm), who participated in "Unplugged" intervention school-based programs designed, implemented, and administered by researchers in 96 classes in 32 schools selected from all regions of Nigeria, showed that skill-based drug intervention programs were effective in preventing alcohol use, improving beliefs, class climate and risk perceptions among Nigerian students (Vigna-Taglianti et al., 2021). Notably, the Unplugged program combined Social Competence and Social Influence universal school curriculum and used interactive techniques to teach "personal and social skills such as critical and creative thinking, assertiveness, refusal skills, verbal and non-verbal communication, managing emotions, coping skills, empathy, problem solving and decision making skills, relationship skills, and normative beliefs about substances and the incorrect perception of prevalence of use among peers" (Vigna-Taglianti et al., 2021, p. 2). Also, a study carried out on 91 Primary six pupils in Enugu State, Nigeria revealed that "multiple intelligences teaching approach drug education program" designed by the researchers increased drug refusal skills of pupils than did traditional teaching approach (Nwagu et al., 2015).

Studies conducted in other countries on the effect of drug education have explored the impact that drug health education has on people's knowledge of harmful psychoactive substances and their consequences (see Mahmood et al., 2018; Holtz & Twombly, 2007). The results of the studies consistently showed an improved knowledge of substance abuse and its consequences among health education recipients. For example, a workplace health education program in a Chinese setting increased better smoking harm awareness and lower second-hand smoke exposure especially among the administrative staff (Lin et al., 2021). But knowledge does not always lead to action as shown by some studies that examined the effect of drug intervention education strategies on drug use behavior. Faggiano et al. (2008) in their systematic review of studies mostly conducted in the United States found that skill-based interventions that focused on enhancing refusal and safety skills were more effective in producing higher self-efficacy and reducing drug use among students than affective-based and knowledge-based interventions programs that focused on modifying students' inner qualities like self-esteem and enhancing students' knowledge of the causes, effects and consequences of drug use respectively. Onrust et al. (2016) showed that the effectiveness of these programs is dependent on the age and risk-level of the students involved. The study

further found that universal programs that focus on teaching basic skills such as social skills, self-control and problem-solving skills, and techniques from cognitive behavioral therapy (teaching students to cope with stress and anxiety) benefitted most students in all developmental periods (Onrust et al., 2016). A meta-analysis of 94 studies that investigated the drug behavior outcomes of school-based prevention activities found that the effectiveness of school-based substance use prevention programs was higher when the programs are not lengthy; and are delivered to middle school aged children and primarily by peer leaders (Gottfredson & Wilson, 2003).

Most of the reviewed studies reported the outcomes of the programs designed and implemented by the researchers. The impact of drug education programs infused in mainstream school curricular have not been investigated, especially in Nigeria. This study is needed given that: (1) the program is designed for and accessible to a larger population; and (2) the issue of drug abuse is rising despite the introduction of this program to a larger population. For example, in Nigeria, a scoping review of drug studies showed a prevalence level of 20 – 40% drug abuse among youths in Nigeria (Jatau et al., 2021). Ajayi and Somefun (2020) found that 17.5% of Nigerian university students are current users of drugs. At the secondary school level, students (21% and above participants of reviewed studies reported abusing drugs) with mean age of 15+ across various Nigerian States were found to indulge in drug abuse which they believe could enhance their academic performance (Anyanwu et al., 2016; Bassi et al., 2017; Idowu et al., 2018; Manyike et al., 2016; Soremekun et al., 2020). The growing rate of drug abuse can be associated with the growing rate of its causative factors including: (a) social factors such as peer pressure, role-modeling/imitation, interpersonal conflicts, cultural/religious reasons, and lack of social or family support (Jatau et al., 2021; Sahu & Sahu, 2012); (b) psychological factors including stress, depression, peer rejection, childhood loss or trauma, poor control, sensation seeking (feeling high), and low self-esteem (anomie); and (c) coping reasons including seeking relief from fatigue or boredom or reality, managing heavy academic loads, peer rejection or poor relationships issues (Jatau et al., 2021; Kgatitswe & Amone-P'Olak, 2017; Sahu & Sahu, 2012). Perceived therapeutic benefits of palm wine (such as enhanced vision, malaria treatment, prevention of prolonged labor and enhancement of breast milk production for pregnant and nursing mothers), is also a reason behind the abuse of alcohol among rural community dwellers in Nigeria (Nwagu et al., 2017). The situation of high drug abuse in Nigeria suggests that the introduced government's educational intervention against drug abuse is not widely implemented, is inadequate, or has not been effectively implemented. Importantly, to reform Nigeria's mainstream drug education program, we need to measure the prevalence of drug abuse among the recipient of the program and understand how much attitudinal and behavioral impact the emphasized drug education has had on the lifestyle of individuals who received drug education.

Purpose of Study and Research Questions

This study sought to contribute knowledge to literature on drug use behavior – drug abuse and addiction levels, and the impact of mainstream drug education, especially school-based drug education intervention program of Nigeria's government, on drug use behavior. The study specifically examined the prevalence and causes of drug abuse and addiction among youth-recipients of mainstream drug education (DE) programs in Nigeria. Under-

standing the influence of drug education on drug use behavior is important for creation of workable mainstream drug education policies and practice. Specifically, the following research questions were answered by this study.

1. How prevalent is drug abuse among youth-residents in Nsukka town of Enugu State?
2. What is the addiction level of drug use among youth-residents in Nsukka town of Enugu State?
3. Does gender influence drug abuse among youth-residents in Nsukka town of Enugu State?
4. What is the difference between drug use and addiction levels of drug education recipient and non-drug education recipients?
5. What are the causes and consequences of drug abuse among youth-recipients of drug education in Nsukka town of Enugu State?
6. What is the nature of drug knowledge held by interviewed drug abusers?

Methods

A concurrent embedded mixed-method design was adopted for the study. This method involves collecting both qualitative and quantitative data at the same time with one form of data providing supportive information for another form of data considered the primary data for the study (Creswell, 2009). This method was used because our study sought to draw on participants' self-reports and interview narratives to explore in-depth the prevalence, causes and effects of drug use as well as the knowledge of drug abuse among youths who participated in drug education programs through three compulsory subjects emphasizing drug awareness in Nigeria and those who expressly reported attending drug education lectures. In this study, the qualitative data served a supporting role to the quantitative data and was employed to broaden our perspective about the causes, consequences, and knowledge of drug abuse by youths, especially youths who have attended drug education classes.

Sample

This study's participants comprised of 92 youths made up of 80 (51 males; 27 females; 2 unidentified) youths who responded to the questionnaire and 12 youths (all males– 7 alcohol users; 5 cannabis/alcohol users) who were interviewed with their informed consent. Our decision to target individuals who graduated from secondary school in the year 2012 or later years (post-2012) was based on our focus on understanding the impact mainstream school-based drug education intervention program had on youths' drug behaviors. The year 2012 was the graduation year of the first cohort who received the school-based drug education intervention program implemented via the revised social studies and health education curricula launched in 2007. The study was conducted in Nsukka town in Nsukka

Local Government Area of Enugu State in Nigeria. The participants were sampled from two neighborhoods with drug issues (the name of the neighborhoods have been excluded because of the fear expressed by our interviewees), in the study area, dominated by students and youths. Four private hostels of 30 to 50 self-contain rooms in the studied neighborhoods were accessed. These houses were purposively sampled because some of the occupants of the houses smoke openly and are known as notorious. Random convenience sampling was used to select 80 youths from the sampled hostels to respond to the questionnaire while purposive and snowballing sampling techniques were used to recruit 12 youths who smoke openly or drink to participate in the study. Few of the participants graduated before the year 2012 and were assumed to not have received drug education, except where they expressly stated otherwise. Specifically, gender, age, drug education receipt/lecture attendance and level of education were the sociodemographic factors considered in this study (see Table 1).

Table 1: Quantitative Participants' Profile (Number = 80)

Category	Group	Frequency
Gender	Male	51
	Female	27
	Unidentified	2
Age	16 – 20	16
	21 – 24	39
	25 – 30	23
	Unidentified	2
Drug Lecture	Attended	43
	Not attended	32
	Unidentified	5
Secondary School Graduation Year	Pre-2012	7
	2012/Post-2012	71
Educational Qualifications	Secondary education	3
	Undergraduate students	46
	NCE/Diploma	5
	Undergraduate degree	14
	Postgraduate degree	10

Measure

Two measurement instruments –one questionnaire and one interview schedule– developed by the researchers were used for the study. The questionnaire entitled "Youths' Drug Use Questionnaire" [YDUQ] and one semi-structured interview schedule entitled "Youths' Drug Use Interview Schedule" [YDIS] were used for collecting data for the study.

YDUQ is composed of two sections. Section one covered questions on participants' biodata (gender, age, year of secondary school graduation, and drug lecture attendance) while section two comprises 30 items –19 items in Cluster 1 (prevalence of drugs use) and 11 items on Cluster 2 (reasons for drugs use). Cluster 1 items are rated on a 5-point frequency scale of (5 = daily, 4 = twice/thrice weekly, 3 = once weekly, 2 = occasionally, 1 = not at all) while Cluster 2 items are rated on a 4-point Likert scale (4 = strongly agree, 3 = agree, 2 = disagree, 1 = strongly disagree). Noteworthy is that drug abuse is determined by deriving the cumulative percentage of daily, twice/thrice per week, and weekly usages of the harmful substances while addiction drug is measured by daily usage or dependence on the harmful drugs. The questionnaire items were drawn from reports in existing literature and researchers' experience about drug use in Nsukka, Nigeria. For example, the questionnaire included items such as opiates (heroin and opium), cocaine, cannabis, pharmaceutical opioids (e.g., diazepam, tramadol, codeine, caffeine, and morphine), kolanut, and alcohol because that are the most abused psychoactive substances in Nigeria (Jatau et al., 2021; Soremekun et al., 2020; UNODC, 2019) as well as found in mainstream drug education curricular in Nigeria. The semi-structured interview schedule is composed of 14 open questions.

Three experts validated the instrument for content and language quality. The questionnaire was trial tested on 20 youths who did not participate in the study. The reliability test on their responses was analyzed with Cronbach alpha. The result yielded an alpha coefficient of .93 for cluster 1, .85 for cluster 2, and .91 for the overall instrument which were accepted as sufficient and acceptable levels of internal consistency (Cohen et al., 2011). The instrument was adopted and administered on the 80 participants of the study. Participants' responses in the main study were also subjected to reliability analysis using Cronbach alpha. And the result yielded an alpha coefficient of .91, .83 and .91 for cluster 1, cluster 2 and overall instrument respectively which are sufficient and acceptable levels of internal consistency.

Procedure

The second researcher visited the purposely sampled four private hostels for the study and collected both the quantitative and qualitative data in July 2021. Consent was sought and obtained from participants for their participation in the study and they were informed of their rights to withdraw from participation. The quantitative and qualitative data were collected simultaneously. And participants of the quantitative study were different from participants of the qualitative study. YDUQ was distributed to occupants of the hostels who were available and consented to participate in the study and the completed questionnaires were collected on the spot. There was a 100% return rate of completed questionnaires. Upon the request of the researcher, youths who use psychoactive substances like cannabis and cocaine were recommended by some of residents of the hostels for interviews. The recommended potential interviewees further recommended their friends who use drugs. However, many of the recommended cannabis and cocaine users declined consent, despite being shown approval letter, out of fear that the researcher may be a disguised security informant. Of the 37 recommended users only 13 gave consent and participated in the interview. All interviews were audio-recorded. However, only 12 responses were included in this study as one of the

respondents stated that he does not take alcohol or any other substance. Of the 12 whose responses were included for the study, only five reported using cannabis, the other seven reported only using alcohol at varying degrees. No incentives were given for participation.

Data Analysis

Descriptive analysis of the participants' scores on all measured reported factors were done using frequency or percentage count and mean analysis. T-test or one-way ANOVA were used for variance analysis to determine if statistical differences existed between or among categorical variables. Interview responses were transcribed verbatim. Thematic analysis was used for analyzing the qualitative data.

Study Limitations

This study has some limitations. The sample size is small and limits its generalizability. When the participants of the quantitative study, who received drug education, started using drugs was not ascertained, but an assumption was made that drug education recipients who use drugs did not start using it before Primary 5 (age 10) which is the class where students are first much exposed to drug use education in school. This assumption, although confirmed by the findings of the qualitative study, appears to be a limitation. These limitations did not affect the quality of the finding as the findings of the study exposed some important relevant drug education policy, practice, and research implications.

Findings

Generally, the results showed that 73.7%, 59.5%, 30%, 27.8%, 25%, 17.5%, 14.5% and 12.5% of the respondents use alcohol, kolanut, caffeine, cigarettes, cannabis, tramadol, codeine, and cocaine respectively. Addiction levels to alcohol, cannabis, cigarettes, tramadol, and cocaine were high at 3.8% to 23.7% with daily users ranging from as low as 1.3% for Meth/Amphetamines and cocaine to as high as 3.8% for cannabis and 5.0% for alcohol. Peer influence, recreation-seeking, and social and economic hardships were the causes of drug use while getting relief from troubling social and economic realities and coping with depression were the highest reported reasons for taking psychoactive substances among youths. These are suggestive of the point that government's drug education intervention program had no impact on drug use behavior of the program's recipients as DE recipients still abuse drugs. Findings are detailed below.

Quantitative Findings

This section presents the findings from the quantitative date under two sub-heads: prevalence and causes.

Prevalence of Drug Use and Addiction Among Youths

The results in Table 2 showed that alcohol (73.7%), kolanut (59.5%), caffeine (30%), cannabis (28.8%), cigarettes (27.8%), inhaler (25%), tramadol (17.5%), sedatives (20.3%), codeine (14.5%) and cocaine (12.5%) are the psychoactive drugs mostly used by youths. The degree of usage differs. Drug abuse level for alcohol is high with 23.7% of the study participants abusing it while up to 5.0% of the study sample are addicted users. About 2.6% of the participants abuse Meth or Amphetamines while 1.3% are addicted users. Cannabis is abused by 16.3% of the study participants while 5% of the studied participants addicted users while the abuse level of cocaine is 3.8%, with 1.3% addicted users. About 5.1% of the study participants abuse tramadol with 1.3% of the ample addicted users. Ten percent (10%) of the study participants abuse inhalers while 5.0% are addicted inhaler users. Cigarettes is abuse by 11.5% of the participants while 1.3% are addicted users of cigarettes.

Table 2: Prevalence of Drug Use Among Youths

	N	**Percentage**							**Mean**	**SD**
Drugs		**Daily (Addiction)***	**Twice/Thrice weekly**	**Once weekly**	**Occasionally**	**Drug Abuse****	**Users+**	**Non-Users++**		
Kolanut	79	2.5	6.3	5.1	45.6	13.9	59.5	40.5	1.84	.96
Alcohol	80	5.0	12.5	6.3	50.0	23.7	73.7	26.3	2.20	1.11
Cigarettes	79	1.3	7.6	2.5	16.3	11.5	27.8	72.2	1.49	.95
Tramadol	80	1.3	1.3	2.5	12.5	5.1	17.5	82.5	1.26	.68
Codeine	80	0	1.3	3.8	10.0	4.5	14.5	85.5	1.21	.56
Caffeine	80	0	0	2.5	27.5	2.5	30.0	70.0	1.32	.52
Weed/Cannabis	80	5.0	11.3	0	12.5	16.3	28.8	71.3	1.66	1.23
Cocaine	80	1.3	2.5	0	8.8	3.8	12.5	87.5	1.21	.69
Nicotine	80	1.3	0	2.5	3.8	5.1	7.5	92.5	1.14	.57
Local stimulants	79	1.3	1.3	2.5	15.2	1.3	20.3	79.7	1.29	.70
Other Opiums	80	0	1.3	0	3.8	1.3	5.0	95.0	1.08	.38
Benzodiazepins	80	0	1.3	0	5.0	1.3	6.3	93.8	1.09	.39
Antihistamines	79	1.3	0	1.3	2.5	2.6	6.1	93.9	1.10	.52
Hallucinogen	79	1.3	1.3	3.8	2.5	6.4	8.9	91.1	1.19	.68
Tranquillizers	79	2.5	3.8	2.5	6.3	8.8	15.2	84.8	1.32	.90
Narcotics	80	0	1.3	2.5	5.0	3.8	8.8	91.3	1.14	.49
Barbiturates	80	0	1.3	2.5	2.5	3.8	6.3	93.7	1.11	.48

Meth/Amphetamines	80	1.3	1.3	0	5.0	2.6	7.5	92.4	1.14	.59
Inhalers	80	5.0	3.8	15.0	15.0	10.0	25.0	25.0	1.49	1.06

Note. *Addiction level = daily usage. **Drug abuse = summation of daily, twice/thrice weekly, and weekly users; +users = summation of daily, twice/thrice weekly, weekly and occasional users, and ++Non-users are those who selected "not-at-all" option.

Prevalence of Drug Use by Gender, Educational Qualification, and Drug Education Access

The results in Table 3 showed that females reported higher use of caffeine, cocaine, tranquillizers, and inhalers than men. While men reported higher use of kolanut, alcohol, cigarettes, codeine, tramadol, and cannabis. Individuals who have not attended any drug education lecture reported higher use of measured substance. The aggregate drug abuse mean score indicated that men, pre-2012 graduates, non-recipients of drug education, and secondary school graduates use psychoactive drugs than women, 2012 and post-2012 graduates, recipients of drug education, and higher education graduates.

Table 3: Mean Drug Abuse by Sociodemographic Factors

	N	**Kolanut**	**Alcohol**	**Cigarettes**	**Tramadol**	**Codeine**	**Caffeine**	**Cannabis**	**Cocaine**	**Tranquillizers**	**Inhalers**	**Drug Abuse***
Gender												
Male	51	1.98	2.23	1.54	1.33	1.23	1.31	1.71	1.17	1.22	1.45	1.35
Female	27	1.65	2.18	1.40	1.14	1.18	1.33	1.59	1.29	1.55	1.59	1.32
Drug lecture												
Attended	43	1.73	2.02	1.25	1.16	1.13	1.23	1.58	1.04	1.19	1.41	1.24
Not attended	32	2.03	2.43	1.83	1.37	1.31	1.40	1.81	1.38	1.43	1.62	1.46
Secondary school Grad. Yr.												
Before 2012	7	2.00	2.57	1.14	1.14	1.42	1.14	2.14	1.14	1.57	1.57	1.48
2012 or post 2012	71	1.87	2.19	1.54	1.26	1.18	1.32	1.63	1.22	1.31	1.49	1.32
Educational Qualification												
Secondary	3	2.33	3.33	1.66	1.66	1.66	1.66	3.33	2.33	2.66	2.66	1.91
University Student	46	1.85	2.09	1.30	1.19	1.13	1.23	1.36	1.04	1.33	1.36	1.23
NCE/Diploma	5	1.20	2.00	2.50	1.60	1.60	1.80	2.40	2.00	1.80	2.00	1.80
Undergraduate degree	14	1.71	2.21	1.73	1.07	1.00	1.28	1.42	1.28	1.35	1.42	1.23
Post-graduate degree	10	2.33	2.70	2.10	1.50	1.50	1.30	2.60	1.20	1.60	1.60	1.65

Note. Under drug education lecture, SD for the group "Not Attended" ranged from .56 to 1.33 and that of the group "Attended" ranged from .21 to 1.67. *****Cumulative mean score of drug use. Drug abuse is derived by adding up daily, twice/thrice weekly, and weekly options.

No statistical difference was found in the mean score of all categorical variables except for drug education group. A statistically significant difference (t = 1.952, df = 69, p = .05) was found in the mean score of individuals who have attended any drug education lecture (M = 1.24, SD = .37) and those who have not attended drug education lecture (M = 1.46, SD = .56). Those who have not attended drug education lectures had higher drug abuse mean score; this indicates higher abuse of drugs. However, the mean drug abuse score of individuals who have attended drug education lectures was still high.

Reasons for Drug Abuse Among Youths

Table 4 results showed that the reasons for using substances range from the strongest need to forget worries, get high, cope with depression, and get energized or alert to the least need of getting accepted by friends, dispelling shyness, and unconsciously perpetrating crimes. A cross tabulation of responses further showed that these reasons for taking drugs were commonly reported by respondents who reported taking weed, tramadol, alcohol, cigarettes, cocaine, codeine, and local stimulants. Individuals who take drugs to forget worries and dispel shyness were those who reported taking some of these drugs occasionally. A cross tabulation of responses showed that only individuals who reported taking substances to enable them unconsciously commit crimes (3.8%) are those who take weed twice or thrice weekly.

Table 4: Reasons for Drug Abuse

Item	SA	A	Agreed (%)	D	SD	Disagreed (%)	M	SD
To forget my worries	26	12	47.5	16	26	52.5	2.47	1.25
To cope with depression	18	16	42.5	16	30	57.5	2.27	1.19
To get high	18	19	46.2	12	31	53.8	2.30	1.20
To fit into a group	13	12	31.2	16	39	68.8	1.98	1.14
To get energized or alert	11	22	41.2	15	32	58.8	2.15	1.10
To dispel shyness	7	20	33.7	17	36	66.3	1.97	1.03
To boost self-confidence	10	19	34.2	17	34	65.8	2.06	1.08
To satisfy curiosity	14	14	35.0	18	34	65	2.10	1.14
To overcome boredom	11	23	42.6	11	35	57.4	2.12	1.12
To control an addiction	5	5	12.6	14	55	87.4	1.49	.87
To unconsciously commit crime(s)	2	1	3.8	8	69	96.2	1.20	.58

Qualitative Findings

This section presents the findings of the qualitative study. The result from thematic analysis of qualitative data are grouped under 5 themes: causes and reasons for drug use, effects of drug abuse, knowledge of drug abuse, responsibility and precaution measures, and

addiction and withdrawal plans. Generally, the qualitative data buttressed some findings of our quantitative data. Deducible from interviewees' responses is that drug addiction is associated with economic hardship while satisfying psychological needs is associated with occasional or one-off drug use.

Table 5: Demographics of Interview Participants

	Interviewee*	Education Level	Completed Sec. Sch. in	Substance	Use frequency**	Date of interview	Drug Education***
1.	Ikechukwu	B.Sc.	2012	Cannabis	3 or more times daily	July 27, 2021.	Not really
2.	Mbah	B.Sc.	2010	Cannabis	3 or more times daily	July 27, 2021.	Lots of it
3.	Uche	B.Sc.	2014	Cannabis	Occasionally	July 27, 2021.	Not really
4.	Ade	B.Sc.	2014	Alcohol	Occasionally	July 22, 2021.	Severally
5.	Musa	B.Sc.	2005	Cannabis	3 or more times daily	July 27, 2021.	Aware
6.	Adamu	B.Sc.	2006	Alcohol	Over two bottles daily	July 22, 2021.	Aware
7.	Ofobuike	B.Sc.	2013	Alcohol	Regularly	July 22, 2021.	Aware
8.	Kelechi	UG	2011	Alcohol	Occasionally	July 22, 2021.	Not really
9.	Obinna	M.Sc.	2004	Alcohol	Occasionally	July 22, 2021	Aware
10.	Chukwudi	O' level	2018	Alcohol	Regularly	Aug. 4, 2021	Aware
11.	Ibeabuchi	B.Sc.	2013	Alcohol	Occasionally	July 22, 2021	Aware
12.	Chigozie	B.Sc.	2006	Cannabis	Occasionally	Aug. 4, 2021	Not really

Note. * All interviewees are men. All reported names are pseudonyms. ** Those who use drugs regularly and daily are abusers while those who use it daily are addicted users. *** Lifted from their statements.

Causes of Drug Abuse and Dependence Among Youth-Recipients of Drug Education

The reasons why youths use drugs include satisfaction of psychosocial needs through recreation, relief, relaxation, and exploration. Each reason interlinks with reported economic and psychosocial realities of the use or addiction. These economic and social realities (e.g., hardship, depression, loneliness, frustration, peer influence) are the causes of drug abuse. Some participants, especially occasional users use drugs for mental and psychological needs such as enjoyment, relaxation, relief and exploration as indicated by the comments below.

> Basically, I use it for enjoyment. Just to relax. Sometimes after stressing the brain, you just have to calm it down. – Uche

> When I feel so depressed and tired of the whole situation I just have to go and take one or two alcohol to knock myself out at the moment. So, when wake up, I start a new life again. …I can say I gain a lot of relief. ... When I feel depressed; no money, no friends, the little change I have on me I use it to take some of these drugs than doing something crazy that by the end of the day will get me into something crazy or something like that. – *Oforbudike*.

Economic hardship lead people into using drugs. Drug use due to economic hardship usually progress to drug addiction if the hardship lingers. The interviewees who associated their use of drugs to their economic difficulties are mostly daily users of drugs.

> If I am upset and I take one or two bottles, I will be calm and cool. …before now, I took too much alcohol. After that my doctor advised me to stop taking too much alcohol. So, I reduced it to two or three bottles a day. I take it because of financial issues and all that. I had a situation; I lost my businesses; I lost my car. That was when I started taking it. Then I used to take eight to ten bottles a day… – *Adamu*.

Some youths take drugs because of peer influence or to satisfy their social needs. Satisfaction of social need was the case of Mbah who started using weed during the COVID-19 lockdown.

> I started smoking during the lockdown when I was actually idle; my parents did not allow me to go out; and my cousin was actually around. And he was a stoner; and when I said a stoner, I mean that he smokes very well. And we play games together; and when he is done smoking, he feels so free. Even when you are winning him, he will be feeling so free, laughing; and I became influenced. I was like let me catch this cruise; let me feel this same way he feels. I tried it, and I really enjoyed it. – *Mbah*.
>
> I only take it when I am in the midst of my people. – *Obinna*.

Youths Reported Effects of Drug Abuse

A number of effects were identified in interviewees' responses, although probing questions were not asked to elicit detailed possible effects. Hence, only immediate personal therapeutic and physiological effects, that featured in the responses, are reported. These effects include feeling tipsy, weak, lazy, confused, loss of coordination, relaxed and relieved; some of these also form reasons for using drugs as reported in previous discussion.

> Eeh, I think I feel; when I smoke, I feel tipsy; and when you feel tipsy, you feel lazy enough to think about your problems… – *Mbah*.

> So, when I take it, I am either down or very weak. So, I don't take it often. I only take it coincidentally, particularly when I travel home …or I have my friends. – *Obinna*

Headaches were not reported. Only occasional users reported weakness or sleep as an effect of drug use. Addicts view the immediate personal effect of drug use more positively.

Knowledge of Drugs and Drug Abuse

Contrary to speculations that individuals who have knowledge of drug abuse and its consequences will not abuse drugs, the interviewed youths who abuse drugs reported awareness of the ramifications of the drug they use. Their knowledge of drug abuse includes legal, health, social and economic and moral knowledges.

Legal Knowledge: Result showed that addicted users are aware of the legal prohibition of the use of some drugs and legal consequences of dealing with them. This awareness contributed to the difficulty of collecting data from some recommended participants who could not trust that their identity will not be disclosed and who suspected that data collector is an informant. For example, Ade stated, "there are many of them [substance] that are contraband. …you talk about contraband drugs; they are those ones that the government put a kind of embargo on. Like tramadol, like heroine, like cocaine, Indian hemp". Some report of the responses on knowledge of the law on drug use reflects a kind of protest of the law and defense of some drugs. The protest was evident in their comparison of drug laws in Nigeria to that of other countries as deducible from the statements below.

> Yeah, this is Nigeria, many things are contrabands; it is illegal; it makes you to live illegal. Then in the other side of the world, it is just what you want. If you cannot do it, you leave it. –*Ikechukwu*.

> Cigarettes are not contraband. … Tramadol, and the rest, you cannot use it openly [because they are contraband]. …But I don`t think weed should be taken as a drug. It depends on the way we use it. It is recommended; it is health wise. …But not everybody who smokes weed is actually bad. – *Mbah.*

Moral Knowledge: The moral understanding of drug use is a factor in abusing drugs and in plans for withdrawal as shown by our qualitative data. Some interviewees noted that taking drugs can either be bad or good. People taking drugs cannot be said to be generally bad. The morality of using drugs is subjective, not objective. It is a personal moral, not a social moral. For example, Mbah said "…But I don't think weed should be taken as a drug. … not everybody who smokes weed is actually bad.… weed cannot make you to become bad someone." According to some other participants, substance use "is also a source of distraction. It is a bad habit, but …can [be] keep under control.... have just to be civilized about it (Ikechukwu)." To some others, it is bad only when it is overdose. For example, Chigozie said, "I don't abuse, I take according to how I can carry. If any other person is taking overdose of it that's the bad aspect."

Health Knowledge: All interviewed participants reported awareness of the health consequences of drug abuse. Some of these participants have proofs of educational backgrounds in drug-related disciplines. As the responses suggest, some have deep knowledge of it. Some can also produce drugs themselves as indicated in the statements below.

> My Department, Biochemistry, we deal with some of these drugs. We know the content; we know what it does to the system. But because of the situation of the country, nobody will tell you maybe when you get hungry; they will just tell you to keep on managing, but they don't know what it feels... I have received a lot of lectures about drugs and stuff like that. Even some of us in the Department, we know how to make some of these drugs, but we still use it for relief…. When you take alcohol, it interacts with some of the hydrochloric acids in the stomach. And that's how some people get stomach ulcer. When you take excess alcohol, the diminution is done on the liver. So that is some people get internal system failure; kidney failure; organ failure; heart failure and stuffs like that. – *Ofobuike*.

Social and Economic Knowledge: The responses suggested that adult drug users are aware of the social and economic consequences of abuse such as loss of property, committing crimes, and being vulnerable to sexual violence or other crimes against women in the case of the female drug users. For example, Ibeabuchi, said:

> And for the feminine gender, when they're not up to 18 years and start absorbing these things, they might be manipulated, or led into doing things they might not be able to do when their eyes are clear. And we also talk about its effect on the brain called mental retardation when they're not really as sharp as they should be when you have been consuming too much alcohol, and stuff like that.

Responsibility and Precautionary Measures: The Emergence of the Notion of "Civilized Use"

Our study showed that the outcome of substance users' knowledge of the consequences of drug abuse is not usually a decision to withdraw from using stimulant or addictive drugs, but a development of precautionary measures to reduce the consequences. The precautionary measures featured in their notion of *civilized use* which appears to be a misunderstanding of moderate use. In their perspective, a civilized use is measurable or identifiable in the time, space, place, and ability of use. They define *ability of use* as the ability to withstand the psychological consequences of any quantity of drug taken. Civilized use as projected by users involves taking precautionary or responsibility measures mainly to prevent the social consequences of drug use. These measures include taking drugs only at night before bedtime, avoiding taking drugs during academic activities, having self-control, taking the much the brain can carry, desisting from taking it while going out among others as drawn from their responses. Examples of these responses are presented below.

> If you want … to feel the same thing I feel you can try it. You have to control yourself about it; be civilized about it so that you don't go messing yourself up. – *Ikechukwu*.

> …then he's conscious of the quantity his body can absorb and would still be able to find his way back home. I mean, he can't misbehave… He can't because of the influence of the drug start committing atrocities. – *Ibeabuchi*.

> Once I am going out, I don't take it. Sometimes I take it at night to go to sleep. And I feel comfortable. – *Mbah*.

> I actually take it not really because I am addicted to it. I take at leisure, at pleasure, at my convenient. In fact, it doesn't control me, I control it. – *Obinna*.

The precautionary measures taken to reduce the consequences of drug abuse is understood as non-addiction by most of the users. Deducible from their notion of civilized use is that the quantity or frequency of use is not an indicator of drug abuse or drug addiction respectively. To the participants, the inability to control the immediate effects and consequences of drug abuse are the indices of drug abuse.

Addiction and Withdrawal Plan

No direct question was asked about withdrawal plans from substance use but some responses suggested what could lead to withdrawal from drug use for some addicts. The responses are worrisome as they indicate an inability and unwillingness to withdraw unless on the happening of an unimaginable challenge due to substance abuse. Consider the following statements.

> I have not gone for any lecture against it [drug abuse]. I just started it on my own. And I don`t think I need a class to stop it because I feel good with it. – Ikechukwu.

> Eh, your lungs; you can see it on a normal cigarette's packs like Benson, where they drew the hearts of man; the one that smokes and the one that doesn`t smoke. The day I saw it I was like wow, so this is how my heart is? And someone told me that the day I will go to hospital for checkup, that's the day I will stop smoking. I know definitely that I will stop, but something big will make me stop, not minor something, maybe it has not come my way. – Mbah.

Some users feel helpless about using it. They seemed to desire to withdraw but cannot help it at their current economic and social situations. A participant said:

> We use them because we can't do without them. It hurts so much, waking early in the morning, nowhere to go, nothing to do, nothing to hold unto. So, despite the advice, you still check what is feasible in your own world and suit yourself. – Kinsley.

The above responses show that more should be done to prevent drug use as addicted users find it difficult to withdraw.

Discussion

This study investigated the prevalence of drug abuse and drug addiction among educated youths –residing in Nsukka Urban, Enugu State, Nigeria– who received the government's school-based drug education intervention program. The causes, reasons and effects of drug use and the level of drug knowledge among participants were also explored using both quantitative and qualitative approaches.

Result showed a high prevalence of drug abuse among school-based drug education recipients. The revealed prevalence level was in similar range with the levels reported in previous Nigerian studies (Anyanwu et al., 2016; Bassi et al., 2017; Maigida & Hassan, 2019; Manyike et al., 2016; Soremekun et al., 2020; UNODC, 2019). Alcohol was the highest used substance, with highest addiction level, among participants. Kolanut, caffeine, cigarettes, cannabis, tramadol, codeine, and cocaine use were also prevalent. Addiction level to alcohol, cannabis, cigarettes, tramadol, and cocaine was high, with daily users ranging from as low as 1.3% for cocaine and Meth or Amphetamines to as high as 3.8% for cannabis and 5.0% for alcohol. Qualitative data revealed that drug addicts eulogize the drugs they use as beneficial and reported non-readiness or impossibility of withdrawal from psychoactive drug use. Some immediate therapeutic, physiological, and psychological effects of drug use were also revealed. Drug use caused feeling of tipsiness, weakness, laziness, and sleep for some participants, especially non-regular uses. It energized and relieved some other participants. The context of our work, which is an educational community with teeming youths exploring youthhood, could be associated with the high level of prevalence of drug use recorded among our participants, females included. These findings suggest that mainstream drug education intervention programs, including the one implemented by Nigeria's government through its compulsory school subjects, have not been very effective in preventing drug abuse since recipients of the programs still abuse drugs and, in some cases, addicted to them.

Generally, our study showed that drug education beneficiaries use drugs less than non-drug education beneficiaries. The mean difference between male and female use of all measured drugs was marginal. This contrasts with other studies that showed gap in use between women and men to be relatively high, though fast closing (UNODC, 2019; Jatau et al., 2021). Women participants reported higher use of caffeine, cocaine, tranquillizers, and inhalers than men while men participants reported higher use of kolanut, alcohol, cigarettes, codeine, tramadol and cannabis. The work of Olley et al. (2019), although with market women, showed that large number of women use opioids, like tramadol, but for pain relief. Females use of tranquillizers, caffeine, and inhalers more than men could be explained by women's rest seeking behavior which tranquilizers are used to attain and greater exposure to inhalable food substances (e.g., onions, okpehe and ogiri –Igbo local spices, and pepper) through their traditional kitchen roles. Higher use of cocaine among female participants is hard to explain but could be explained by intimate relationships with men who use cocaine.

Although mean analysis showed that drug education recipients reported lower drug use than non-drug education recipients and t-test analysis confirmed the difference to be statistically significant, the mean drug use score of drug education recipients was still high. In other words, individuals who have received education on drug abuse still abuse drugs and, as

shown by the qualitative data, they are deeply aware of the social and health risks and consequences of using psychoactive substances. Hence, a logical conclusion is that the government's drug education intervention program has little impact on drug use behavior of recipients of the programs. This finding is consistent with Idowu's (2018) finding that a reasonable number of students who abuse drugs reported to have received formal lessons on drug abuse or drug education. For our participants, their knowledge of drugs comprises legal, health, moral, and social and economic awareness. They are aware of the health consequences, including heart and kidney issues, of drug abuse. Some participants reported having knowledge of the chemical compositions of the drugs because of their training in health courses. They are knowledgeable of the laws prohibiting the dealing in and with psychoactive drugs but seemed to protest those laws by comparing them with what they either believe or know is obtainable in some other countries. Knowledge of the link between crimes, including sexual abuse, and drug abuse was also noted by drug users.

Knowledge of drugs, drug abuse and consequences of drug abuse did not deter many participants from using drugs but instead informed their advocacy of a "*civilized use*" of drug which implies being conscious of the body-capacity, time, space, and place to take substance. This civilized notion, especially as regard quantity of use of alcohol, contradicts the notion of responsible or moderate drinking which is "defined as the consumption of an alcoholic beverage not exceeding two drinks for men [660ml] and one drink [330ml] for women per day and each drink containing about 12 grams of pure alcohol" (Obot, 2019, p.31–32). Perhaps the drug education received, under the three compulsory programs (civic education, social studies, and health education) emphasized in Nigerian schools, was not adequate to prevent the use of drugs by drug users. This could be attributed to a lack of drug education resources and the dominance of abstract and non-participatory teaching methods that deny students the opportunity to connect with realities in Nigeria's classrooms and fail to capture the challenges of psychosocial needs of learners that may trigger drug use, abuse, and addiction. A systematic review of literature on secondary school substance use program in other countries shows that lack of resources or support and heavy workloads were barriers to effective implementation of substance use program while adequate teacher training and teachers' and students' motivation were facilitators of effective implementation (Waller et al., 2017).

The study showed the emergence of the concept of civilized use of drugs advocated by the qualitative participants who identify it as necessary for the enjoyment of the benefits of drug use (e.g., getting relief from stress, depression and pains, getting relaxation, and escaping social and economic realities of hardship). These experienced 'perceived' gains of drugs are also the reported reasons for using drug by the participants. The qualitative result corroborated the findings of the quantitative data which showed the reasons for using drugs are in the order of emphasis to forget worries, get high, cope with depression, get energized or alert, get accepted by friends, dispel shyness, and unconsciously perpetrating crimes. These findings compare with those of previous studies (Jatau et al., 2021; Kgatitswe & Amone-P'Olak, 2017). As shown by the qualitative data, our participants started using drugs for several reasons including peer influence, loneliness, frustrations, depression, economic hardships, unanticipated misfortunes, and peer rejections. Perhaps emphasized drug education failed to expose students to opportunities to imagine these "gains" of drug abuse in relation to the human rights issues and other long-term consequences associated with drug abuse in a bid to prevent attraction to the gains ascribed to drug use by drug users.

Implications for Drug Education Research, Policy, and Practice

The findings suggest the need for an explicit policy on drug education. The policy should reflect the knowledge, skills, and experiences required of drug education implementers. This includes knowledge of more effective skills as shown by previous studies (e.g., Faggiano et al., 2008; Onrust et al., 2016). Findings suggest the need for research into how the introduced drug education are being implemented in classrooms to inform better drug education practice. Much drug policy and practice designs and implementations have been on drug awareness creation, especially in non-formal education settings and via non-formal education means. But our result showed that drug users, including addicts, are much aware of drugs and the consequences of abusing it. So, awareness creation by using short public messages or video clips via electronic media outlets and flyers is not enough, especially for already drug users. The notion of civilized use, evoked by abusers to excuse the non-immediate consequences of drug abuse, makes the search for workable drug education design cogent. Also, we need further research on the form of drug education non-drug users accessed or received if we are to find working solutions.

The emerging notion of civilized use calls for the adoption of participatory approaches in drug education practice that will create opportunities for learners to actively engage in the campaign against drug abuse and hence get empowered with the grit to avoid drug abuse. Following previous research with students of different age groups in other contexts (Faggiano et al., 2008; Onrust et al., 2016), skill-based interventions such as refusal and safety skills, self-control and problem-solving skills, and techniques from cognitive behavioral therapy (teaching students to cope with stress and anxiety) should be more emphasized in drug education implementation because they are more effective in reducing drug use among students. Narrative approaches should also be used for drug education implementation. The narratives of drug survivors (victim survivors of drug users and rehabilitated drug addicts) should form powerful instructional resources in drug education classes. This would help connect learners to realities. Drug education should also empower learners with reflective skills for understanding of hardships and challenges as part of life that should be handled through healthier approaches than resorting to drug use. Sequel to this, contents, like healthy stress coping strategies, should be infused into drug education. Given the role family play in drug behavior of individuals, schools should liaise with parents in the war against drug abuse. Students should be made to understand that the older generations who they believe suffered no negative effect from their use of these psychoactive substances were not exposed to the much environmental, economic, social, and stress challenges of this time which further exacerbate the effect of drug abuse on the present generation. This understanding is important to disrupt the common practice of mirroring the effects of drug abuse from the experiences of the older generation by young people.

References

Ajayi, A. I., & Somefun, O. D. (2020). Recreational drug use among Nigerian university students: Prevalence, correlates and frequency of use. *PLOS One*, *15*(5): e0232964. https://doi.org/10.1371/journal.pone.0232964

Anyanwu, O., Ibekwe, R., & Ojinnaka, N. (2016). Pattern of substance abuse among adolescent secondary school students in Abakaliki. *Cogent Medicine, 3*(1), 1-7. https://doi.org/10.1080/2331205X.2016.1272160

Bassi, A., Idoko, L., Ogundeko, T., Ramyil, M., Abisoye-Ogunniyan, A., Ogbole, E., … Thilza, S. (2017). Substance abuse and its prevalence among secondary school adolescents in Kagoro, Kaduna State, Nigeria. *World Journal of Research and Review, 5*(1), 11-16.

Chikere, E. I., & Mayowa, M. O. (2011). Prevalence and perceived health effect of alcohol use among male undergraduate students in Owerri, South-East Nigeria: a descriptive cross-sectional study. *BMC Public Health*, *11*(118), 1-6. https://doi.org/10.1186/1471-2458-11-118.

Cohen, L., Manion, L., & Morrison, K. (2011). *Research Methods in Education* (11th ed.) London: Routledge.

Creswell, J. W. (2009). *Research design: Qualitative, quantitative and mixed methods approaches* (3rd Ed.) Los Angeles: SAGE.

Degenhardt, L., Peacock, A., Colledge, S., Leung, J., Grebely, J., Vickerman, P., & Larney, S. (2017). *The Lancet Global Heath*, *5*(12), e1192 – e1207. https://doi.org/10.1016/S2214-109X(17)30375-3

Faggiano, F., Vigna-Taglianti, F., Versino, E., Zambon, A., Borraccino, A., & Lemma, P. (2008). School-based prevention for illicit drugs use: A systematic review. *Preventive Medicine, 46*, 385–396.

Gilchrist, G., Dennis, F., Radcliffe, P., Henderson, J., Howard, L., & Gadd, D. (2019). The interplay between substance use and intimate partner violence perpetration: A meta-ethnography. *International Journal Drug Policy, 65*, 8-23. https://doi.org/10.1016/j.drugpo.2018.12.009

Gottfredson, D. C., & Wilson, D. B. (2003). Characteristics of effective school-based substance abuse prevention. *Prevention Science, 4*(1), 27-38.

Graham, K., Bernards, S., Knibbe, R., Kairouz, S. Kuntche, S., Wilsnack, S. ... Gerhard, G. (2011). Alcohol-related negative consequences among drinkers around the world. *Addiction*, *106*(8), 1391-1405. doi:10.1111/j.1360-0443.2011.03425.x.

Holtz, K. D. & Twombly, E. C. (2007). A preliminary evaluation of the effects of a science education curriculum on changes in knowledge of drugs in Youth. *Journal of Drug Education, 37*(3), 317-333. doi: 10.2190/DE.37.3.f

Idowu, A., Aremu, A., Olumide, A., & Ogunlaja, A. (2018). Substance abuse among students in selected secondary schools of an urban community of Oyo-state, South West Nigeria: Implication for policy action. *African Health Sciences*, *18*(3), 776 – 785. https://dx.doi.org/10.4314/ahs.v18i3.36

Jatau, A., Sha'aban, A., Gulma, K., Shitu, Z., Khalid, G., Isa, A., Wada, A., & Mustapha, M. (2021). The burden of drug abuse in Nigeria: A scoping review of epidemiological studies and drug laws. *Public Health Review*, *42*:1603960. Doi: 10.3389/phrs.2021.1603960.

Kgatitswe, B., & Amone-P'Olak, K. (2017). Motivation to use cannabis among young adults at a university in Botswana. *African Journal of Drug & Alcohol Studies, 16*(2), 83-94.

Lin, H., Chen, M., Zheng, Y., Yun, Q., & Chang, C. (2021). The association of workplace health education with smoking-related behavior and unequal gains by job position in China: ABWMC program findings. *Substance Abuse Treatment, Prevention, and Policy, 16*, 56. https://dpi.org/10.1186/s13011-021-00392-9

Mahmood, N., Othman, S., AI-Tawil, N., & Ai-Hadith, T. (2018). Impact of an education intervention on knowledge of high school students concerning substance abuse in Kurdistan Region-Iraq: A quasi-experimental study. *PLOS ONE, 13*(10): e0206063. https://doi.org/10.1371/journal.pone.0206063

Maigida, K., & Hassan, A. (2019). Prevalence and pattern of substance use among internally displaced persons in North-Central Nigeria. *Bulletin on Narcotics (Drugs in the Nigerian Population), LXII*, 49-64.

Manyike, P. C., Chinawa, J. M., Chinawa, A. T., Obu, H. A., Nwokocha, A. R., & Odetunde, O. I., (2016). Correlates for psycho-active substance use among boarding secondary school adolescents in Enugu, South East, Nigeria. *BMC Pediatrics, 16*(78), 1-8. https://doi.org/10.1186/s12887-016-0615-9

Nigerian Educational Research and Development Council (NERDC) (2018). *Federal Ministry of Education 9-Year Basic Education Curriculum (National Values, Junior Secondary School 1 – 3)*. Lagos: NERDC.

NERDC (2012a). *Federal Ministry of Education 9-Year Basic Education Curriculum (Basic Science and Technology Primary 4 – 6)*. Lagos: NERDC.

NERDC (2012b). *Federal Ministry of Education Senior Secondary Education Curriculum*. Abuja: FME.

Nwabunike, C., & Tenkorang, E. Y. (2017). Domestic and marital violence among three ethnic groups in Nigeria. *Journal of Interpersonal Violence, 32*(18). https://doi.org/10.1177/0886260515596147

Nwagu, E. N., Dibia, S. I., & Odo, A. N. (2017). Socio-cultural norms and roles in the use and abuse of alcohol among members of a rural community in Southeast Nigeria. *Health Education Research, 32*(5), 432-436. https://doi.org/10.1093/her/cyx058

Nwagu, E. N., Ezedum, C. E., & Nwagu, E. K. N. (2015). The impact of a multiple intelligences teaching approach drug education program on drug refusal skills of Nigerian pupils. *Global Health Promotion, 22*(3), 35–44. DOI: 10.1177/1757975914547203

Obot, I. S. (2019). *How to keep your child off drugs: A prevention guide for parents, guardians and teachers (2nd edition)*. Uyo: CRISA Publications.

Olley, B., Odeigah, O., Kolawale, S., & Mohammed, H. (2019). Prevalence of non-medical use of opioids among market women in Ibadan, Nigeria. *Bulletin on Narcotics (Drugs in the Nigerian Population), LXII*, 65-78.

Onrust, S.A., Otten, R. & Lammer, J. (2016). School-based programmes to reduce and prevent substance use in different age groups: What works for whom? Systematic review and meta-regression analysis. *Clinical Psychology Review, 44*, 45-59. http://dx.doi.org/10.1016/j.cpr.2015.11.002

Sahu, K. K., & Sahu, S. (2012). Substance abuse causes and consequences. *Bangabasi Academic Journal, 9*, 52-59.

Soremekun, R. O., Folorunso, B. O., & Adeyemi, O. C. (2020). Prevalence and perception of drug use amongst secondary school students in two local government areas of Lagos State, Nigeria. *South African Journal of Psychiatry, 26*, 14-28. https://doi.org/10.4102/sajpsychiatry.v26i0.1428

United Nations Office on Drugs and Crime (UNODC) (2021). *World Drug Report 2021*. United Nations Publications. https://unodc.org/unodc/en/data-and-analysis/wdr2021.html

United Nations Office on Drugs and Crime (UNODC) (2019). Drug Use in Nigeria 2018. Vienna: United Nations Publications.

United Nations Office on Drugs and Crime (UNODC) (2018). *World Drug Report 2018*. United Nations Publications, Sales No. E.18.XI.9

Vigna-Taglianti, F., Mehanovi´c, E., Alesina, M., Damjanovi´c, L., Ibanga, A., Pwajok, J., Prichard, G., van der Kreeft, P., Kaur Virk, H., & the Unplugged Nigeria Coordination Group (2021). Effects of the "Unplugged" school-based substance use prevention program in Nigeria: A cluster randomized controlled trial. *Drug and Alcohol Dependence, 228*, 08966. https://doi.org/10.1016/j.drugalcdep.2021.108966

Waller, G., Finch, T., Giles, E., & Newbury-Birch, D. (2017). Exploring the factors affecting the implementation of tobacco and substance use interventions within a secondary school setting: A systematic review. *Implementation Science, 12*, 130. https://doi.org/10.1186/s13012-017-0659-8