

Nonconventional Use of Substances among Youth in Nigeria: Viewpoints of Students in a Nigerian Tertiary Institution

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Abstract

Introduction: The use of substances such as whitish end of lizard dung, hydrogen sulphide gas (sewer gas), seed of **Zakami**, Premium Motor Spirit (PMS), rubber solutions, nail polish cleaners, pawpaw leave and seed, Moringa (Zogale) leave, **tear gas, gun powder, Mandara (Kafra)** and gutter from toilet for nonconventional purpose among Nigerian youths has become a source of concern at various levels of the society. **Methods:** A semi-structured questionnaire was administered to 220 participants recruited during two class sessions in the school. **Results:** More than half (117, 58.2 %) of the participants were males and over two-fifth (87, 43.5%) were between the ages of 21 and 25 years. A greater portion (174, 87%) of participants had heard about nonconventional use of these substances; whitish end of lizard dung, hydrogen sulphide gas (sewer gas), Premium Motor Spirit (PMS), rubber solutions, nail polish, pawpaw leave, pawpaw seed, Moringa (Zogale) leave, seed of **Zakami, tear gas, gun powder, Mandara (Kafra)** and gutter from toilet. Participants' education, age group and geopolitical zones were associated with awareness level, influencing factors and complication as a result of nonconventional substance use. **Conclusion:** Most participants in this study affirmed that the use of nonconventional substances among youths in Nigeria is on the rampant, especially in the northern region.

Keywords: Nonconventional; Use of substances; **Zakami**, Moringa; Gutter from toilet; Lizard dung; Sewer gas; Tertiary institution students; **Tear gas; Gun powder;** Nigeria

Introduction

Since the early times, herbs, leaves and plants substances have been used to heal and control diseases [1]. Use of substances among Nigerian youths for nonconventional purpose has become a source of concern at various levels of the society. Globally, it has been estimated that 90% of the population aged 12 years or older are classified with dependency on psychoactive substance [2].

Nigeria is confronted with many problems, one of which is the new trend in the use of nonconventional substances. Majority of Nigerian youths ignorantly depend on one form of substance or the other, for various daily activities such as social, educational, political and moral. Lately, non-medical consumption of cough syrups in Northern Nigeria has become a subject of public concern, largely due to its potential danger to the society. Abuse of substances, licit or illicit, is so widespread in our present societal context that we might as well ask why some adolescents abstain, rather than why most do not [3].

Substance use among youths is generally associated with a broad range of social, psychological, behavioural and health risks [4], including increased risk of car accidents, violence [5] and suicide [6]. The initiation of drug use usually occurs during this stage of adulthood and may lead to chronic substance abuse as well [7]. The current trend of substance abuse among youth is a major national concern, and it has

derogatory effects on youth such as health and behavioural problems, or even death [8]. Substance abuse is a social problem that has spread and increased rapidly in our educational institutions especially among our secondary school students. In Nigeria, this social mal-adaptation is considered an issue of serious concern as it adversely affects the lives and performance of students involved as well as the harmonious functioning of the entire structure of the society [9].

The problem of substance abuse is so grave that, it was originally conceived as the problem of a 'select few'. But, it has extended beyond the usual characteristics of abusers being male, adult and urban based people to now include female, youngsters and rural dwellers. These abusers erroneously believe that drugs enhance their performance and put them in good mood. The attendant problems of this act constitute a major threat to the wellbeing of the society [10-11].

Mersy [12] described substance abuse as a problematic use of alcohol, tobacco, or illicit and /or prescribed drugs and it has been referred to as nation's number one health problem. While David [13] refers to substance abuse as a pathological pattern or excessive use and intake of a substance even though it may cause physical damage, jeopardizing safety (such as driving a car while intoxicated) or impairing social relationships and occupational functioning. The crave for these substances may lead to a pre-occupation with its acquisition and use.

The abuse of various mood-altering substances has been reported to be prevalent among Nigerian youths. Studies [14-15] have shown that some substances alter the mind, change the user's feeling, perception and behaviour when they are used because they exert action on the

brain. Global studies on drug use and abuse revealed that early initiation of drug use is one of the best predictors of future drug abuse and dependence. For instance, youths who started drug use before the age of 14 are more vulnerable to drug problems later in life than those who started using drugs at the age of 21 and above.

In the past, the most commonly abused drugs in the Northern part of the country (Nigeria) are (except alcohol and tobacco) grouped into six classes: the opioids, sedative-hypnotics (sedative), stimulants, hallucinogens, cannabis and inhalants [16].

Dankani [17] reported in his study that, when participants were asked on whether they take another drugs apart from cough syrups, 76% answered in the affirmative, such drugs includes tobacco, Indian hemp, cocaine, morphine, heroine, alcohol, ephedrine, Madras, Caffeine, glue, Barbiturates and Amphetamines.

Experimentation with substances during adolescence is not uncommon. However, studies [18] have shown that children who experiment with substances at a young age are more likely to use other drugs later in life [18]. Similarly, some adolescents' exposure may be limited to experimentation, but others will develop a dependency, even moving on to more dangerous drugs use, and causing significant harm to themselves and possibly to others [19].

The use of drugs in itself does not constitute any danger, because drugs correctly administered have been a blessing [1]. Falco [20] opined that "chronic use of substances can cause serious irreversible damage to adolescent's physical and psychological development. Although national data on the extent of adolescent substance use are limited, certain trends are apparent. In addition to serious public health consequences of substance use, adolescent substance abuse is highly correlated with other problems relating to adolescent behaviours, such as early pregnancy, dropping out of school, delinquency and violence. The strong public demand for effective action to combat drugs may provide those means to develop a national strategy which will not only address substance abuse but, will also have an impact on the related problem behaviours of many adolescents.

Use of substances such as alcohol, khat leaves and tobacco has become one of the rising major public health and socioeconomic problem worldwide [21]. The use of nonconventional inhaled substances such as whitish end of lizard dung, hydrogen sulphide gas (sewer gas), seed of **Zakami** [22], Premium Motor Spirit (PMS), rubber solutions, nail polish cleaners, pawpaw leave and seed, Moringa (Zhogale) leave, **tear gas, gun powder, Mandara (Kafra)** and gutter from toilet [23] in Nigeria has been observed to exceed all other forms of substance abuse and it has become one of the growing major public health and socioeconomic problems. This may be due to the easy access to these substances and its relative availability.

Modes of intake of these nonconventional substances include smoking (cannabis), inhalation or sniffing (organic solvents, cocaine, and heroin), chewing (local leaves or 'Zakami') and licking or swallowing [23].

Abuse of inhaled substances, particularly typewriter correction fluids, gasoline and other volatile hydrocarbons was reported to be at an increasing rate among adolescents and young adults attending addiction clinics in India [24]. Most of these inhalant users are predominantly socioeconomically deprived young males aged 10-18years [25]. These products are popular used among the adolescents as a result of peer influences, easy availability, legality and rapid mood-elevating effects. They are usually inexpensive as

compared to alternative legal substances. Inhalant abuse is becoming a significant public health problem in India [26], more so due to lack of awareness among the general population and even among healthcare professionals regarding their abuse potential and consequences [26].

Controlled substance abuse has increased at an alarming rate. However, available evidence [27] suggests a wide variance in the use of controlled substances as documented by different medical specialties, medical boards, advocacy groups, and the drug enforcement administration [27].

Aim of the study

Although much has been done on substance abuse among school adolescents, little is known about the use of nonconventional substances among youths in Nigeria. Thus, this study sought to assess students' perceptions on the use of nonconventional substances.

Methods

Study setting

This study was carried out at the Federal Polytechnic Bida, Niger State. The Federal Polytechnic, Bida was established by the Decree No. 33 of 1979 (now the Federal Polytechnic Act of 1990, including Decree No 47 of 1989, No 5 of 1993 and other legal documents). Originally, the institution was known as the Federal College of Technology, Kano as it was instituted on March 1, 1977. Following the Federal Government's decision, it was moved to Bida on July 27, 1977 as the Bida College of Technology on a temporary site, Government Technical School, Eyagi and later on moved to the permanent site along Doko Road, Bida. The Federal Polytechnic, Bida has the following schools headed by a Dean. School of Applied Arts and Sciences (SAAS), School of Business and Management (SBAM), School of Engineering Technology (SET), School of Environmental Studies (SES) & School of Preliminary (Remedial) (SPS). The Academic Board has statutory responsibility for the Management and direction of the academic work of the Polytechnic [28].

Bida is the Headquarter of Bida Local Government Area in Niger State and it lies at 9006' N and 6001' E on the Nupe sand stone formation. The town is located to the north-east of the Federal Capital Territory Abuja with population of 188,181 in 2006 and projected population of 192,161 people in 2009 [29].

Study design

This is a cross-sectional study of the Federal Polytechnic Bida students on the use of nonconventional substances among youths in Nigeria.

Study population

Study participants include students of School of Applied Arts and Sciences.

Data collection tools

A semi-structured questionnaire developed by the authors was administered to 220 students who agreed to participate in the study during two class sessions between 16th and 17th June 2015.

Data analysis and management

The statistical software SPSS V16.0 was used to analyse the data. Categorical data was expressed as frequency and percentages while continuous variables, were expressed as mean± standard deviation. Association between categorical variables was expressed using Chi square (χ^2) and test of statistical significance (p-value) was set at p=0.05.

Results

Response rates

Out of the 220 questionnaires administered, 204 were returned giving an overall response rate of 92.7%.

Variables	Frequency	Percentage
Sex		
Male	117	58.2
Female	84	41.8
	n=201	
Age group		
15-Nov	2	1
16-20	37	18.5
21-25	87	43.5
26-30	30	15
31 and above	44	22
	n=200	
Religion		
Islam	61	30.7
Christianity	138	69.3
	n=199	
Educational level		
Pre-ND*	2	1
ND*	91	45
HND*	109	54
	n=202	
Geo-political zone of participants		
North-central, Nigeria	85	42.3
North-west, Nigeria	11	5.5
North-east, Nigeria	14	7
South-west, Nigeria	33	16.4
South-east, Nigeria	30	14.9
South-south, Nigeria	28	13.9

	n=201	
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Table 1: Participants' basic socio-demographic characteristics

Table 1 shows that two in every five (87, 43.5%) of participants were between the ages of 21-25 years. Above half of participants (109, 54.0%) were in their higher national diploma classes offering various courses. More than a third (85, 42.0 %) of participants were from north-central, Nigeria.

Of the 204 students in the study, Fig 1 below shows that a greater portion (174, 85.3%) of participants had heard about nonconventional use of these substances; whitish end of lizard dung, hydrogen sulfide gas (sewer gas), Premium Motor Spirit (PMS), rubber solutions, nail polish, pawpaw leave, pawpaw seed, Moringa (Zogale) leave, Seed of **Zakami**, **tear gas**, **gun powder**, **Mandara (Kafra)** and gutter from toilet.

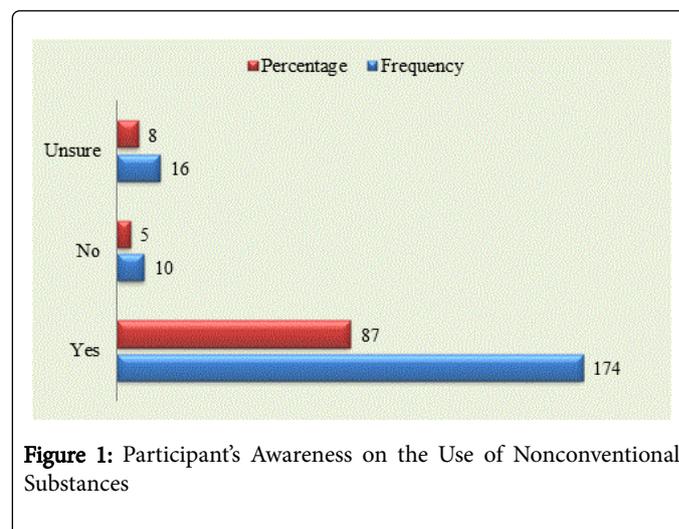


Figure 1: Participant's Awareness on the Use of Nonconventional Substances

Information are facts provided or learned about something or someone. About a third (57, 27.5%) of participants indicated that their main source of information about use of nonconventional substances was through mass media. This was closely followed by (53, 25.6%) family/associates. It is significant to note that a notable poortion (12, 5.8%) of participants attested they had physical contacts with the nonconventional substance users (Figure 2).

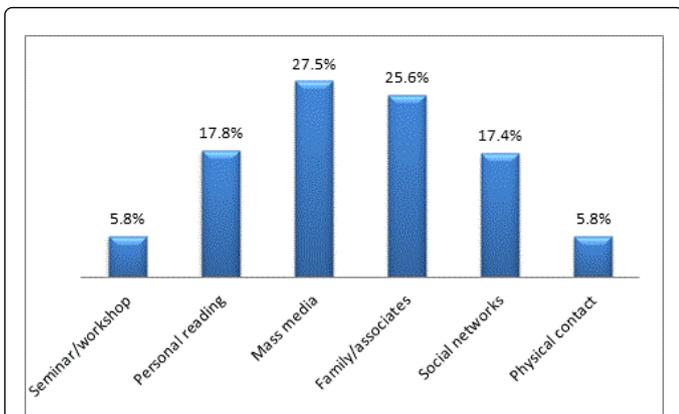


Figure 2: Sources of information about use of nonconventional substances

Use of nonconventional substances among the gender is categorically illustrated in figure 3 above. Nearly, three in every five (121, 59.9%) participants were males and the most users of nonconventional substances.

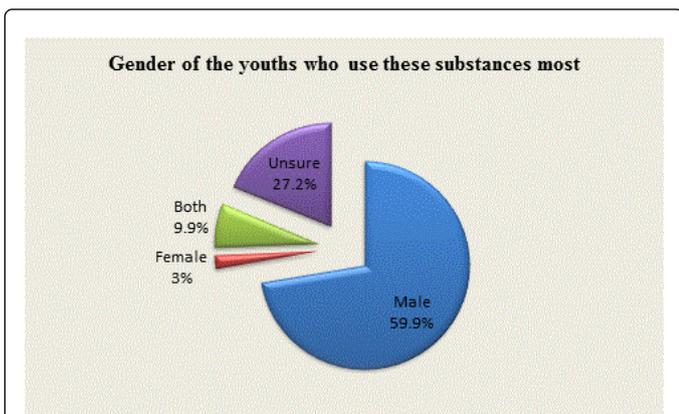


Figure 3: Participant's viewpoint on the gender that uses these nonconventional substances most

Table 2 below shows that two in every five (82, 40.5%) of participants affirmed that they have friends/associates who uses nonconventional substances. A simple majority (146, 73.7%) of participants admitted that the use of nonconventional substances is also common among rural settlers and a half (96, 50%) signified that most of the nonconventional substance users are aware of the dangers associated with it. It is significant to note that a third (67, 33.7%) of participants opined that NDLEA is not doing well in curtailing the menace of substance use/abuse in Nigeria.

Statement	N	Yes (%)	No (%)	Unsure(%)
Do you have friends/associates who take any of the above listed substance (s)	200	82(40.5)	78(39.0)	41(20.5)

Do you think nonconventional substance use is also common among rural settlers?	198	146(73.7)	22(11.1)	30(15.2)
Do you think most of the substance users/abusers are aware of the danger associated with these substances?	192	96(50.0)	57(29.7)	39(20.3)
Do you think that NDLEA is doing well on curtailing the menace of substance abuse in Nigeria?	199	79(39.7)	67(33.7)	53(26.6)

Table 2: Participant's perceptions on the use of nonconventional substances

Peer pressure/ influence was identified by many (81, 39.7%) among participants (see Table 3). Lack of parental care (60, 29.0%) and urbanization and unemployment (56, 27.5%) were factors militating against the use of nonconventional substances among youths.

Factors	N	%
Peer pressure/ influence	81	39.7
Societal	44	21.6
Lack of parental care	60	29
Individual	50	24.5
School	17	8
Experimentation and rebellion	21	10.3
Boredom	12	5.9
Media adverts	33	16.2
Urbanization and unemployment	56	27.5
Poverty and family problems	29	14

Table 3: Participants' opinions on the factors militating against the use of nonconventional substances

Table 4 shows that nearly two-third (121, 63.0%) of participants admitted that nonconventional use of substances will lead to theft and criminal act.

Effects	N	Yes (%)	No (%)	Unsure (%)
Contracting HIV/AIDS	191	40(20.9)	76(39.8)	75(39.3)
Poor performance in schools	188	100(53.2)	40(21.3)	48(25.5)
School dropout	189	100(52.9)	41(21.7)	48(25.4)
Theft and criminal act	192	121(63.0)	32(16.7)	39(20.3)
Sudden sniffing dead	188	101(53.7)	28(14.9)	59(31.4)
Accident	188	104(55.3)	23(12.2)	61(32.5)
Coma	183	81(44.3)	22(12.0)	80(43.7)

Table 4: Effects of nonconventional use of substances

Use of nonconventional substances and the geopolitical zones where they are mostly used are two indicators to determine the most used nonconventional substance within each zone in the country (see Table 5). It is important to note that the use of nonconventional substances had statistical significance on participants geopolitical zones they are mostly used ($\chi^2= 5.9554$; $p= 0.03$).

Variable s	NC*(%)	NE*(%)	NW*(%)	SE*(%)	SS*(%)	SW*(%)	Total %
A*	9.2	3.1	2.6	1	1.5	1	18.4
B*	24.4	16	8.2	2.6	1.5	1	53.7
C*	16	9.7	5	1.5	2	2.6	36.8
D*	20.9	12.8	7.7	4.1	4.1	2	51.5
E*	17.9	12.8	8.7	2.6	2	4.1	48
F*	17	14.3	9.7	3.1	2.6	5	52
G*	12	9.7	9.2	2.6	0.5	4	37
H*	19.4	16.9	12	3.1	2.6	4.6	58.6
I*	11.7	6.6	2.6	-	0.5	0.5	21.9
J*	14.8	10	7	0.5	1.5	0.5	34.5
K*	12.8	8	3.1	1.5	3.1	1.5	30
L*	13.8	8	3.1	2	1	0.5	28.4
M*	17.9	10	8	2.6	0.5	1	40

Table 5: Relationship between the use of nonconventional substances and geopolitical zones NE*= North Central, NE*= North East, NW*=North West, SE*= South East, SS*= South-South, SW*= South West. A*= Whitish end of lizard dung, B*= Hydrogen sulphide gas (Gas from Pit toilet), C*= Premium Motor Spirit (PMS), D*= Rubber solutions, E*= Nail polish, F*= Pawpaw leave, G*= Pawpaw seed, H*= Moringa (Zogale) leave, I*= **Zakami seed**, J*= Mandara (Kafra), K*= **Tear gas**, L*= **Gun powder**, M*= Gutter from toilet.

Table 6 demonstrates that age group, academic level and geopolitical zones were associated with participants' perceptions on the use of nonconventional substances. For instance, education level ($\chi^2=3.228$, $P=.000$) had significance on awareness as regards abusers and abused substances. Factors influencing substance use among youths were associated ($\chi^2=2.070$, $P=.001$), ($\chi^2=2.445$, $P=.000$) with age group and education level.

	AG*	EL*	GPZ*
Variables	χ^2 PV*	χ^2 PV*	χ^2 PV*
Have you heard about nonconventional use of substances	18.453 .240	5.148 .953	24.103 .152
Which of these substances have you heard or seen people used before	2.713 .635	3.228 .000	3.315 .560

What Factors do you think is influencing substance use among youths	2.070 .001	2.445 .000	1.659 .766
Can the use of any of these nonconventional substances lead to complications	25.948 .039	16.469 .171	39.876 .002
Do you think NDLEA are doing well on curtailing the menace of substance abuse in Nigeria	20.079 .003	11.067 .523	17.451 .492

Table 6: Factors associated with perceptions on the use of nonconventional substances AG*= Age group, EL*= Education level, GPZ*= Geopolitical zones, PV*= P- value

Discussion

Appalling youthful activities such as use of substances is becoming a source of concerns in Nigeria to the society, government and other stakeholders. Substance use is a major public health problem worldwide [30]. Despite the intimidating harmful effects of these substances, the trend is on the increase. Characteristically, substance use begins during the early teen years and progresses from non-use, to occasional use, to frequent use of one or more form of substances [31].

Through observational and empirical studies, it is evident that there is overwhelming changes and pattern of alcohol and other psychoactive substance use among Nigerian youths [32]. This may be due to the emergence and free availabilities of new substances in our societies and communities. In line with this, our study reveals that a greater portion (87%) of participants had heard about nonconventional use of one or more of these substances: whitish end of lizard dung, hydrogen sulphide gas (sewer gas), Premium Motor Spirit (PMS), Rubber solutions, Nail polish, pawpaw leave, pawpaw seed, Moringa (Zogale) leave, Seed of **Zakami**, **tear gas**, **gun powder**, **Mandara (Kafra)** and gutter from toilet through mass media (29%), followed by family members or associates (27%) while 6% had physical contacts with users. A study by Ahmed [33] reported that 75% of participants had information about use of substances like Shisha, alcohol, tobacco, Khat chewing and others before.

The demographic characteristics of participants in this study demonstrate a gender division between males (58%) and their female (42%) counterparts and mostly were within the age range of 16 and 25 years. This is in agreement with a study [34] where it was reported that 60% of participants were males and 59% of participants were within the age bracket of 15 and 30 years respectively. Additionally, two in every five (41%) of them also revealed that they had friends/associates who use one or more nonconventional substances and a half (50%) opined that most of the substance users are aware of the dangers associated with the substances. Relatively, a study by Dankani [17] who investigated into awareness of the implication of drug addiction shows that 85% of participants were aware of the negative implication of misuse of drugs.

Substance use is mostly common among male youths. Recent studies [34,33] established that involvement of females in the use of substances was evident. This is evident in the indicated that 10% of participants in this study opined that both males and females uses nonconventional substances. From our findings, it was observed that,

major factors influencing the use of nonconventional substances among youths were peer pressure/ influence 40%, marked lack of parental care (29%) and urbanization and unemployment (28%). This finding concedes with reports from previous studies [35-37,23,38,17] where peer group/ friends influence, environment, promotion and availability, lack of parental supervision, experimentation and rebellion and boredom were identified as the major factors that influence youths on drug and substance abuse.

Investigation into relationship between use of nonconventional substances and the geopolitical zones they are mostly used, revealed that use of nonconventional substances was statistically significant ($\chi^2=5.9554$; $p=0.03$) with the perception on geopolitical zones where substances were mostly used. This is evident in the indicated percentages of participants such as lizard dung (9.2%), hydrogen sulphide gas (Gas from pit toilet) (24.4%), Premium Motor Spirit (PMS) (16%), rubber solutions (20.9%), nail polish (17.9%), pawpaw leave (17%), pawpaw seed (12%), Moringa (Zogale) leave (19.4%), **Zakami seed 11.7%**, Mandara (Kafra) (14.8%), **tear gas (12.8%)**, **gun powder (13.8)** and gutter from toilet (17.9%) within north central. This disagrees with a study [37] on drugs abuse in Nigeria. The study [37] stated that the Northwest zone of the country has the highest statistics of 37.5% of the drug victims in the country, while the Southwest has been rated second with 17.3%, the south-East was rated third with 13.5%, North-central, has 11.7% while the North-eastern zone had 8.5% of the drug users in the country.

Study limitations

Most participants (42%) in this study were from the North Central Zone of the country, the region where the study was carried out. As such, the study outcome could be rated as a regional representation rather than nationwide.

Conclusion

Participants attested to the fact that the use of nonconventional substances among youths in Nigeria is on the rampant, most especially, within the northern zones of the country. There are noticeable relationship between participants' awareness and influencing factors with participants' age group, education level and geopolitical zones.

Based on the results of this study, participants made the following recommendations.

1. Government and NGOs should increase the level of awareness and sensitization campaign on the effects of substance use/abuse in the country.
2. Government and NGOs should carry out more scientific research on the usefulness of some of these substances.
3. Parents should be watchful on the type of activities and company their children keep.
4. The NDLEA and other relevant law enforcement agencies should as an issue of necessity, strengthen their efforts in curtailing the menace of these substance use among youths.
5. The government should create more employment, entrepreneur opportunities and vocational centres to reduce this peril.

Competing interest

The authors declared that they have no competing interest

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