

Awareness and Use of Psychoactive Substances Among Senior Secondary School Adolescents in Nigeria

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Abstract

Background: Adolescence period is characterized by life threatening behaviors such as using psychoactive substances. However, the adverse effects of using psychoactive substances may include cirrhosis of the liver, lung cancers, and chronic illnesses.

Objectives: To investigate the awareness and use of psychoactive substances among secondary school adolescents living in the Niger Delta region of Nigeria.

Materials and Methods: The study method was cross-sectional with descriptive survey design. The research population was all secondary schools students (N = 16973) of Nigeria. A multistage sampling procedure was used in selecting a sample size of 2000 participants. A modified WHO student drug use questionnaire on awareness and use of psychoactive substances by secondary school students was used for data collection. Also, relevant hypotheses were formulated and frequency counts, percentages, and Chi-square test were used for statistical analysis.

Results: The results showed that a high number of study participants were aware of psychoactive substances but a relatively low number actually used them. Alcohol was the most abused form of psychoactive substance.

Conclusions: An appropriate psychoactive drug education program should be included in the curriculum of primary and secondary schools.

Keywords: Psychoactive Substances, Awareness, Use, Adverse Effects

1. Background

Psychoactive drugs are chemical substances that affect the normal functioning of the brain and cause changes in behavior, mood, and consciousness. Psychoactive drugs are used therapeutically as well as recreationally. They are used to alter mood, perceptions, and consciousness (1). Psychoactive drugs used for recreational purposes include caffeine, alcohol, cocaine, LSD (Lysergic Acid Diethylamide), and cannabis (2). Caffeine, tobacco, and alcohol are legally available while the rest are not (2). In both modern and ancient cultures, drug use is and was seen as a status symbol (3). For example, drugs are often used as status symbols in nightclubs and parties (3). This situation is not different in the Nigerian culture.

Psychoactive drugs are used not only to enhance pleasure but also to achieve social, religious, and ritualistic goals (4). According to surveys, socially acceptable drugs like alcohol and cigarettes are commonly used by Nigerian in and out-of school adolescents (5). The critical period of adolescence is marked by several physical, psychological, and social changes. One of the most important psychological phenomenon observed during this period is ex-

perimentation, which means trying new experiences such as using drug and having sex, sometimes with dire consequences (6). Studies carried out in the last two decades in Nigeria showed that the major users of psychoactive substances are adolescents (7). The period of adolescence is marked by different types of experiences, including use of psychoactive drugs and sexual activities. Consequences of using some psychoactive drugs include cirrhosis of the liver, wrinkles, emphysema, and lung cancer (6). Abuse of psychoactive substances mostly by young people is a significant public health concern for some time now. According to epidemiological surveys in Nigeria, substance abuse is common and one of the most disturbing health related problems among the young (6), who usually start with alcohol and cigarettes and progress to further experimentations with illicit drugs (7).

The life style of adolescents has greatly deviated from what it was in the past. Previously in 1970s and 1980s, it was unusual with adolescents to smoke and drink indiscriminately in the open. Most adolescent boys and girls now seem to see nothing wrong in drinking alcohols and smoking cigarettes freely and openly at social gatherings and even in the streets (7). However, in Nigeria, a government

agency, national drug law enforcement agency (NDLEA), has been trying its best to bring drug abuse under control in the country. The militancy observed in the Niger Delta region of the country might be connected with the incessant abuse of drugs. This situation is not without adverse effects such as dropouts from schools, cultism, and violent activities like armed robbery and militancy (8). Most of the adolescents involved in substance abuse also end up as school dropouts justifying the need for a study like this for early detection and prevention of drug abuse.

Psychoactive substances researched in this study include tobacco, cocaine, heroin, cannabis, alcohol, and tranquilizers such as valium. Tobacco is consumed in different forms such as chewing tobacco, cigarettes, pipe smoking, and snuffing (9). Tobacco consumption is associated with diseases such as heart attacks, cancer, and strokes (10). Cocaine is addictive in nature and a powerful stimulant of the central nervous system (11). Heroin is also known as diacetylmorphine, serves as a pain killer and recreational drug. When used in relieving pains, it is strictly controlled to avoid the development of tolerance and physical dependence leading to addiction (12). Cannabis is also known as marijuana and is the most widely used illicit substance in the world (13). The adverse effects of marijuana include increased heart rate, lowered blood pressure, and impairment of short-term memory (14). Valium is used for treating anxiety or insomnia (15). Improper use of tranquilizers can lead to addiction, mental confusion, and memory loss (10). Alcohol is another psychoactive drug with a depressant effect and addictive in nature. Ethanol present in alcohol is capable of causing acute respiratory failure or death when taken in excess. Alcohol impairs judgment and can cause careless behavior (16).

The study of Igwe et al. revealed that secondary school adolescents abuse different types of psychoactive substances with alcohol being the most commonly abused substance (8). In the study of Eneh and Stanley in 2004 on the pattern of psychoactive substance abuse, alcohol was also found on the top of the list of abused substances (7). In the study of Gureje et al. on the pattern of substance abuse, among other drugs abused, alcohol was the commonest one (6). According to the study of Oshodi et al. the commonest substance used was caffeine gotten from kolanut and coffee amidst various other substances abused (17). The study of Shehu and Idris showed that various psychoactive substances were abused (18). Their study showed that peer pressure was mostly responsible for smoking. Also, there was a significant relationship between age and marijuana. And nonsmokers performed better academically than smokers.

2. Objectives

A large number of adolescents live in Nigeria (19). A study of this nature is necessary to determine the awareness and use of a group of drugs known as psychoactive substances among senior secondary adolescents in the Niger delta region of Nigeria. The outcome of the study might direct the planning and implementation of preventive intervention programs on the psychoactive substances researched in this study. This might reduce the number of adolescents that experiment with psychoactive substances.

3. Materials and Methods

The study method was a cross-sectional with descriptive survey design. The study population was all senior secondary school adolescents in Port Harcourt metropolis. Multistage sampling procedure was used in the study. First, simple random sampling technique was used in selecting 13 out of 26 senior secondary schools in Port Harcourt metropolis. Proportionate sampling technique was used in determining the number of participants from each school. Only volunteer participants were allowed in the study. Finally, simple random sampling technique was used in selecting the sample size of 2000 participants for the study from those volunteered to participate.

Questionnaire on awareness and use of psychoactive substances by senior secondary school students was the instrument for data collection. This instrument was a modified WHO questionnaire on the use of drugs by students. It has 3 sections. Section 'A' had closed-ended questions on demographic characteristics. Section 'B' also had closed-ended questions on awareness of psychoactive substances, and section 'C' had closed-ended questions on the use of psychoactive substances. The validity of the instrument was established. The internal consistency of the instrument was also established using a test-retest reliability method. The instrument had a reliability coefficient of 0.76 which was established with Pearson product-moment correlation coefficient (r). Informed consents were obtained from the authority of the participating schools and individual participants. Three trained research assistants administered the questionnaire forms to 2000 participants. The questionnaire forms were administered and collected in one session to enhance a high rate of return. Out of 2000 questionnaire forms administered, 1700 were found useful for data analysis. Research questions and hypotheses were formulated and tested. Data were analyzed using frequency counts and percentage on the research questions. Inferential statistics of the Chi-square was used to test the hypotheses.

4. Results

Demographic characteristics of study participants by frequency and percentiles are presented in [Table 1](#).

Table 1. Demographic Characteristics of Study participants by Frequency and Percentages

Variable	No. (%)
Age groups, y	
10 - 13	427 (25.12)
14 - 17	920 (54.12)
18 - 21	353 (20.76)
Total	1700 (100.0)
Religion	
Christians	1082 (63.65)
Muslims	516 (30.35)
Traditionalists	102 (6.00)
Total	1700 (100)
Gender	
Male	935 (55.00)
Female	765 (45.00)
Total	1700 (100)

4.1. Research Questions

4.1.1. Research Question One

How are senior secondary school adolescents aware of a group of drugs known as psychoactive substances?

A greater percentage of study participants were aware of a group of drugs known as psychoactive substances ([Table 2](#)). The awareness was based on statements made against different types of common psychoactive substances involved in the study. However, a greater number of the participants did not know that valium and heroin were psychoactive substances ([Table 2](#)).

4.1.2. Research Question Two

What are the psychoactive substances used among senior secondary school adolescents?

[Table 3](#) presents use of different types of psychoactive substances among the study participants. A greater number of the study participants have never used psychoactive substances at the time of data collection.

4.1.3. Research Question Three

What is the relationship between age and knowledge of psychoactive substances among senior secondary school adolescents?

The younger age group demonstrated more awareness of the meaning of psychoactive substances followed by the youngest and then the eldest age group ([Table 4](#)). This order could be attributed to the fact that the eldest age group might be gradually losing interest as they outgrow the age of experimentation. They now have better understanding than the other two age groups and might see the need to be more serious with important issues.

4.1.4. Research Question Four

What is the relationship between age and use of psychoactive substances by the senior secondary school adolescents?

The younger age group always used psychoactive substances followed by the eldest and lastly the youngest age group ([Table 5](#)).

4.2. Research Hypotheses

4.2.1. Hypothesis One

There is no significant relationship between age and knowledge of psychoactive substances among senior secondary school adolescents in this study.

The calculated Chi-square value of 5750.865 was found to be higher than the table value of 55.76 at degree of freedom of 40. Therefore, the null hypothesis was rejected and the alternate hypothesis accepted. The alternate hypothesis states that there is a significant relationship between age and knowledge of psychoactive substances among senior secondary adolescents studied ([Table 6](#)).

4.2.2. Hypothesis Two

There is no significant relationship between age and use of psychoactive substances among senior secondary school adolescents studied.

The null hypothesis was rejected and the alternate accepted. This was due to the calculated Chi-square value of 3045.99 being higher than the table value of 74.47. The alternate hypothesis states that there is a significant relationship between age and use of psychoactive substances among senior secondary school adolescents ([Table 7](#)).

5. Discussion

Some young people experiment with risky behaviors such as using psychoactive substances capable of negatively affecting their health. This behavior progresses from adolescence to adulthood with chronic health problems ([20](#)). Adolescents seem to be naturally curious and thus try different types of experiences, including the use of psychoactive substances ([21](#), [22](#)). Adolescents freely purchase tobacco and alcohol from the retail shops ([22](#)). This study

Table 2. Awareness of Psychoactive Substances by Senior Secondary School Adolescents^a

ITEM	True	False	Total
Psychoactive substances are drugs with significant effects on mood and behavior.	1500 (88.24)	200 (11.76)	1700 (100)
Psychoactive substances			
Tobacco (cigarette)	1600 (94.12)	100 (5.88)	1700 (100)
Alcohol	1400 (82.35)	300 (17.65)	1700 (100)
Cannabis (marijuana)	1550 (91.18)	150 (8.82)	1700 (100)
Cocaine	1400 (82.35)	300 (17.65)	1700 (100)
Heroin	900 (52.94)	800 (47.06)	1700 (100)
Valium (tranquilizer)	300 (17.65)	1400 (82.35)	1700 (100)
Psychoactive substances are dangerous to health	1600 (94.12)	100 (5.88)	1700 (100)
Psychoactive substances are dangerous to health and mental illness.	1500 (88.24)	300 (11.76)	1700 (100)
Total	76.8	23.2	-

^aValues are expressed as No. (%) or %.

Table 3. Use of Psychoactive Substances by Senior Secondary School Adolescents^a

Substances	Always	Occasionally	Rarely	Never
Tobacco	200 (11.76)	50 (2.94)	10 (0.59)	1440 (84.71)
Alcohol	400 (23.53)	60 (3.53)	20 (1.18)	1220 (71.76)
Cannabis	50 (2.94)	5 (0.29)	2 (0.12)	1643 (96.65)
Cocaine	0	0	0	1700 (100)
Heroin	0	0	0	1700 (100)
Valium	100 (5.88)	300 (17.65)	200 (11.76)	1100 (64.71)
Others	0	0	0	1700 (100)
Total	6.30	3.49	1.95	88.26

^aValues are expressed as No. (%) or %.

revealed that the respondents had knowledge and also used psychoactive substances. Those that had knowledge of psychoactive substances were 78.8% while 23.2% had no knowledge. The knowledge spreads over different types of psychoactive substances. Those that used psychoactive substances were 11.74%, but 88.26% of them had never used any drugs. The use and knowledge of psychoactive substances seems to be increasing compared to findings of previous studies. For example, in the study of Oshodi et al. in Nigeria, 27% of respondents had knowledge of psychoactive substances while 78.8% of respondents in this study had this knowledge (17). This is also in line with the statement of the nations' health report that the percentage of adolescents who smoke seems to have not declined in recent years (23).

The knowledge of psychoactive substances demonstrated by adolescents in this study were in line with the

findings of previous studies (8, 18). Psychoactive substances have adverse effects on physical coordination, concentration, and judgment (24, 25). This study has also revealed that senior secondary school students have used one or another form of psychoactive substances. Some used it always, some occasionally, some rarely, and some never used these substances. This finding agrees with the previous studies (8, 17) such as Igwe et al. and Oshodi et al. In a study by Oshodi et al. 8.9% of the respondents were taking alcohol while 11.76% of respondents in this study took alcohol (17). However while 3.3% took cannabis in the study (17), in Oshodi et al. study, 2.94% of the participants took cannabis.

Our study has also revealed that the psychoactive substances that are commonly and always used by the respondents are alcohol and tobacco, respectively. High consumption of alcohol could be attributed to the lowering

Table 4. Relationship Between Age and Knowledge of Psychoactive Substances^a

Items	True			False		
	10 - 13, y (N = 427)	14 - 17, y	18 - 21, y (N = 353)	10 - 13, y N = 427	14 - 17, y (N = 920)	18 - 21
Psychoactive substances are drugs with significant effect on mood or behavior.	400 (93.68)	870 (94.57)	230 (65.16)	27 (6.32)	50 (5.43)	123 (34.84)
Psychoactive substances						
Tobacco (cigarette)	410 (96.02)	910 (98.91)	280 (79.32)	17 (3.98)	10 (1.09)	73 (20.68)
Alcohol	350 (81.97)	844 (91.69)	200 (56.66)	77 (18.03)	76 (8.31)	153 (43.34)
Cannabis	405 (94.85)	900 (97.83)	245 (69.41)	22 (5.15)	20 (2.17)	108 (30.59)
Cocaine	355 (83.14)	845 (91.85)	200 (56.66)	72 (16.86)	75 (8.15)	153 (43.34)
Heroin	250 (58.55)	550 (59.78)	100 (28.33)	177 (41.45)	370 (40.22)	253 (71.67)
Valium	75 (17.56)	200 (21.74)	25 (7.08)	352 (82.44)	720 (78.26)	305 (92.91)
Psychoactive substances are dangerous to health.	415 (97.19)	915 (99.46)	270 (76.49)	12 (2.81)	5 (0.54)	83 (23.54)
Psychoactive substances can cause heart attack, cancer and mental illness.	400 (93.68)	875 (95.11)	225 (63.74)	27 (6.32)	45 (4.89)	199 (56.26)

^aValues are expressed as No. (%).

Table 5. Relationship Between Age and Use of Psychoactive Substances Among Senior Secondary School Adolescents^a

Items	Always			Occasionally			Rarely			Never		
	10 - 13, y	14 - 17, y	18 - 21, y	10 - 13, y	14 - 17, y	18 - 21, y	10 - 13, y	14 - 17, y	18 - 21, y	10 - 13, y	14 - 17, y	18 - 21, y
Tobacco	4.68	16.3	8.5	1.17	3.26	4.24	0	0.54	1.42	94.15	79.89	85.64
Alcohol	9.37	30.42	22.66	1.64	3.80	5.1	0.23	1.3	2.0	88.76	64.46	70.25
Cannabis	0	3.26	5.67	0	0.33	0.57	0	0	0.57	100	96.41	93.2
Cocaine	0	0	0	0	0	0	0	0	0	100	100	100
Heroin	0	0	0	0	0	0	0	0	0	100	100	100

Table 6. Results of the Chi-square Summary of the Relationship Between Age and Knowledge of Psychoactive Substances in Senior Secondary Adolescents

	Calculated X ²	XX ²	df	α level	Result
Age and knowledge of psychoactive substance	5750.865	55.76	40	0.05	Significant

Table 7. Chi-square Summary of the Relationship Between Age and Use of Psychoactive Substances in Senior Secondary School Adolescents

	Calculated X ²	XX ²	df	α level	Result
Age and use of psychoactive substance	3045.993	74.47	55	0.05	Significant

age of use, decreasing the cost, and increasing the number of sales outlets (26). This also agrees with the gateway theory which states that all adolescents will first try cigarette and alcohol before progressing to more illicit substances. High consumption of alcohol by the study respondents could also be attributed to its affordability. These are followed by tranquilizers and cannabis. Abudu pointed out that a mixture of cannabis and alcohol, commonly referred to as monkey tail in Nigeria, is sold for 20

NGN per shot (27). There is neither law nor ban on the sales of alcoholic beverages to minors. Finally, cocaine and heroin were never used. This suggests that intervention programs should concentrate mostly on alcohol and tobacco; however, tranquilizers and cannabis should not be neglected.

Age was also a significant factor in the knowledge and use of psychoactive substances by the senior secondary school adolescents. Respondents within the age range of

14 - 17 years showed more knowledge of psychoactive substances. This was followed by those within the age range of 10 - 13 years while those within 18 - 21 years demonstrated the lowest level of knowledge (Table 4). This is not in consistent with the finding of Gureje et al. that knowledge of psychoactive substances tends to increase with age (6). Once again respondents within 14 - 17 years age used psychoactive substances most, followed by those within the age range of 18 - 21 years and lastly those within 10 - 13 years. Those within age range of 14 - 17 years had the highest knowledge and also used psychoactive substances always more than other age groups. In line with this, Adelekan and Ndon submitted that this age range, 14 - 17 years, is the most susceptible group to the use of psychoactive substances (28). They further added that it is the period of more experimentations and giving in to negative peer influence to show that they are mature. It is also a period of greatest biological changes revealed by the secondary sexual characteristics (28). Oshodi et al. also stated that those of average age of 15.9 years are at risk of using psychoactive substances (17).

According to Erinfolami et al. those within the age range of 10 - 13 years use milder psychoactive substances such as caffeine more than the older age groups (29). In addition to this, the age of initiation of using psychoactive substances is known to be as low as 10 years (5, 18).

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Footnote

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