

SUBSTANCE USE AND RISKY SEXUAL BEHAVIOR AMONG ADOLESCENT STUDENTS IN MAKURDI, NIGERIA**Oyedele Akinjola*¹, Moses Denen Chiahemba², Samuel Sesugh Utim³, Matthias Oyigeya⁴, Michael Agbo Amedu M. A.⁵, Aladi Nneka Edeh¹, Terkura Michael Agbir¹, Gideon Adagam⁶, Friday Usankurong Ashikabe⁷**¹Departments of Psychiatry College of Health Sciences, Rev. Fr. Moses Orshio Adasu University, Makurdi.²Psychology Unit, Department of Psychiatry, Benue State University Teaching Hospital, Makurdi.³Department of Internal Medicine, Benue State University Teaching Hospital, Makurdi.⁴Department of Psychiatry, Federal Medical Center, Makurdi.⁵Department of Psychiatry, Federal University of Health Sciences, Otukpo, Benue State, Nigeria.⁶Benue State University Teaching Hospital, Makurdi, Benue State, Nigeria.⁷College of Post Basic Psychiatry Nursing, Rev. Fr. Moses Orshio Adasu University Teaching Hospital, Makurdi.

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ABSTRACT

Adolescence is stage in human life when an individual when decisions are mostly influenced by emotions and individuals tend to experiment with things other do like substance use and sex. This study aims at determining the prevalence of substance use and risky sexual behaviours as well as determining the association between substance use and risky sexual behaviours in Makurdi, North-Central, Nigeria. A total of 412 secondary school students were recruited for the study using a stratified sampling technique. A proforma self-administered questionnaire was designed and administered to the participants. The participants range from 13 to 20 years of age, they were mostly male 52.9%. the result revealed that the prevalence of current substance use is 28.9% and the prevalence of risky sexual behaviours is 73.1%. The current of of psychoactive substance was found to be significantly associated with frequent use of substance during sexual encounter, frequent sex, unprotected sex, multiple sexual partners, unwanted pregnancy and abortion.

KEYWORDS: Adolescents, Substance use, Risky sexual behaviors, Correlates, Nigeria.**INTRODUCTION**

Adolescence, is a transition period between childhood and adulthood, a period of orientation shifts from parents to peers and during this period, peers have more powerful influence on adolescents' beliefs, attitudes and behaviors.^[1,2] Decisions during this phase of life is largely influenced by emotions since the limbic system responsible for pleasure, emotion and novelty seeking is better developed than the frontal cortex which controls behavioral regulation and higher order processing.^[3-5] At this period, children start experimenting with things they see others do. It is therefore necessary that children should be properly guided during this critical period of development. Most cases of substance use disorders have

been shown to begin in adolescence^[6] and a systematic review of Nigerian studies among adolescents revealed a lifetime prevalence of 40.1%-87.3% and a current use prevalence of 32.9%-69.2%.^[7]

Specific behaviors, whether injurious or not are formed under the influence of two factors namely; nature and nurture. While nature has to do with individual personality traits and temperaments which has been shown to determine behavior^[8], nurture relates to the influence of four socializing units: family, school, peers and religious and community institutions as stated in the social development model.^[9] These four socializing units constitute the environment of adolescents and have a

great influence on their personality development and consequently their behavior.

Adolescent risk behaviors are behaviors in adolescence that may cause physical or mental harm to self or to others. These includes smoking drinking, illicit drug use, sexual risk taking and aggression. Studies have consistently shown that health risk behaviors are mutually predictive and tend to occur together.^[10-12] If these risky behaviors are not identified early and effectively monitored, the individual's health, as well as his or her social and family ties, may be severely harmed.^[13] Studies have consistently reported that risky behaviors in adolescence is associated with high morbidity and mortality.^[13-15]

Sexual behavior refers to behavior with which an individual gratifies his sexual needs. If this is carried out in such a way that there is a possibility of danger, it then qualifies as risky sexual behavior. Sexual behaviors have been studied in the context of sexual practices, sexual relationship, reproductive health, sexually transmitted infections and contraception.^[16] Researchers have described the term "high risk sexual behavior" which has been defined by researchers as sexual activities which expose the person to risk of adverse sexual and reproductive health such as unwanted pregnancies, unsafe abortions and STIs, including human immunodeficiency virus.^[17] The focus of researchers in this context has mainly been on unprotected sexual intercourse and involvement in sexual activities with multiple sexual partners.^[18,19]

Several studies have demonstrated a positive relationship between psychoactive substance use and high-risk sexual behaviors.^[20,21] Studies on high sexual behavior have shown that adolescents who regularly abuse psychoactive substances are more likely to become sexually active at an earlier age, more likely to have multiple sexual partners and more likely to have unprotected sex.^[21,22] A surveillance study conducted in the United States of America in year, 2011 shows that 22.1% of adolescents engage in substance use during their most recent sexual encounter^[23] which has been reported to increase the likelihood of unsafe sexual intercourse.

Literature search reveal paucity of studies on psychoactive substance use and sexual risk among adolescents in Nigeria and none was found to have been done in the study area. Conducting a study on substance use and risky sexual behavior among adolescents in Benue will help reveal the enormity of the problem and also provide basis for the planning of awareness programs and also, guide interventions by health care professionals, schools, religious institutions, NGO's and also guide government policies.

AIMS

The mind of adolescent children is known to be driven by curiosity and their emotions which makes them vulnerable to influence by peers and the society in general. Consequently, they tend to indulge in variety of high-risk behaviors which are behaviors that may pose risk of harm to them or to others. These behaviors tend to cluster in an individual because one of such behavior can lead to another. This study aims to find the relationship between psychoactive substance use and risky sexual behaviors among adolescent students in Makurdi.

OBJECTIVES

1. To find the prevalence of substance use among adolescent students
2. To find the proportion of the participants that are sexually active
3. To find the proportion of participants engaging in risky sexual behaviors
4. To find the relationship between substance use and high-risk sexual behavior

METHODOLOGY

Study Location and participants: The study was be conducted among secondary school students in Makurdi, the capital city of Benue state, Nigeria. Being the capital of the state, Makurdi has significant representation of all the ethnic tribes of Benue state.

Study design: the study is a descriptive, cross-sectional study.

Study Instruments

Pro-forma: Pro-forma questionnaire is designed which comprise of 3 sections namely; section A which assess the socio-demographic characteristics the participating students, section B which assess the types of psychoactive substances used by the participants, the substance of interest as listed in the questionnaire include; Alcohol, Cannabis, Methamphetamine, Codeine, Tramadol, Pentazocine, Cigarette, Tobacco, Diazepam, Coffee, Heroin and Cocaine. And finally, the section C of the questionnaire assess risky sexual behaviours among the participants.

Procedure

Ethical clearance was obtained from the ethical committee of Rev Fr. Moses Orshio Adasu University Teaching Hospital. Permission will be obtained from the Benue State Ministry of Education as well as the heads of the schools to be used for the study.

The secondary schools in the Makurdi Local government area were stratified into two groups (Private and public) out of which one schools each was randomly selected from each stratum. And from the selected schools, a class was randomly selected from each of the three arms of the senior classes. The study instrument was administered to all consenting students in the selected classes in each school.

After explaining the purpose of the study to the students and obtaining an informed consent from them, the socio-demographic questionnaire was administered to them together with the proforma questionnaire developed for the study.

Data analysis: Data entry was checked for accuracy and coding. Analysis was carried out using the SPSS version 20.0. Appropriate data presentation with descriptive statistics and test of significance was employed where appropriate in the analysis. The confidence interval was set at 95% and level of significance at $p < 0.05$.

RESULT

Table 1, showed the socio-demographic distribution of the respondents, a total of 437 questionnaires were

administered to participants but only 412 were completely filled and were therefore included in the study. The ages of these participants range between 11 – 19 years (mean = 15.45; sd = 1.55), a total of 218 (52.9%) are males while 194 (47.1%) were females. Of the 412 respondents, over a quarter of the participants 119 (28.9%) are currently using one or more of the substances of interest. Also, 67 (16.3%) had engaged in sexual activity. The table also showed that 23.9% of the male participants have had sex while only 7.7% of the females have had sex. Among the 218 male participants, 52 (23.9%) have had sex while 15 (7.7%) out of the 194 female participants have had sex.

Table 1: Socio-demographic characteristics.

Age (years)	Frequency (n)	Percentage (%)
11-13	335	81.3
14-16	69	16.7
17-19	8	1.9
Sex		
Male	218	52.9
Female	194	47.1
Are you currently using substance		
Yes	119	28.9
No	293	71.1
Have you had sex before		
Yes	67	16.3
No	345	83.7
If female, have you had sex before		
Yes	15	7.7
No	179	92.3
If male, have you had sex before		
Yes	52	23.9
No	166	76.1

Table 2, showed of the 67 participants who had engaged in sexual activity, almost a quarter 49 (73.1%) engage in risky sexual behaviour while 18 (26.9%) do not engage in risky sexual behaviour.

Table 2: Showing proportion of sexually active participants engaging in risky sexual behaviours.

Risky sexual behaviour	Frequency (n)	Percentage (%)
Yes	49	73.1
No	18	26.9
Total	67	100.0

Table 3, showed the distribution of the respondents according to the risky sexual behaviours. About one-twentieth of respondents (4.6%) often use substance during just before sex, about three percent (2.9%) used substance during their first sexual encounter sexual encounter while 16 (3.9%) used substance during their

last sexual encounter. Thirty-five (8.5%) have sex at least once every month while two-fifth (40%) often have unprotected sex. Twenty-six (6.3%) have multiple sexual partners, thirteen (3.2%) have history of sexually transmitted infection while 10 (2.4%) are HIV positive. Among the females, three respondents (0.7%) had been pregnant and these same three respondents had aborted the pregnancies. Among the male respondents, 9 (2.2%) have impregnated girls before.

Table 3: Showing the distribution of respondents according to involvement in sexual behaviour.

Variable	Frequency (n)	Percentage (%)
Use substance before first sexual encounter		
Yes	12	2.9
No	51	12.4
Not Applicable	349	84.7
Often use substance before sex		
Yes	19	4.6
No	44	10.7
Not applicable	349	84.7
Use substance during last sex		
Yes	16	3.9
No	46	11.2
Not applicable	350	85.0
Do you have sex frequently (at least once in a month)		
Yes	35	8.5
No	34	8.3
Not applicable	343	83.3
Often have sex without protection		
Yes	41	40.0
No	22	5.3
Not applicable	349	84.7
Having multiple sexual partners		
Yes	26	6.3
No	37	9.0
Not applicable	349	84.7
Have you ever had STI		
Yes	13	3.2
No	66	16.0
Not applicable	333	80.8
Are you HIV positive		
Yes	10	2.4
No	402	97.6
Female: have you ever being pregnant		
Yes	3	0.7
No	12	2.9
Not applicable	397	96.4
Female: have you ever done abortion		
Yes	3	0.7
No	12	2.9
Not applicable	397	96.4
Male: have you ever impregnated a girl		
Yes	9	2.2
No	43	10.4
Not applicable	360	87.4

Table 4, showed the association between substance use and risky sexual behaviours. Pearson's product moment correlation was conducted to evaluate the association between substance use and risky sexual behaviours among the respondents. The result showed that current use of psychoactive substance is found to be positively associated with use of substance before first sexual encounter ($r(410) = .157$, $p = 0.001$), often use of substance before sex ($r(410) = .206$, $p = 0.000$), use of substance during last sexual encounter ($r(410) = .195$, $p = 0.000$), having sex frequently ($r(410) = .152$, $p = 0.002$), having unprotected sex ($r(410) = .154$, $p = 0.002$), having

multiple sexual partners ($r(410) = .180$, $p = 0.000$), haven had sexually transmitted infection ($r(410) = .159$, $p = 0.001$), haven been pregnant before when respondent is a female ($r(410) = .131$, $p = 0.008$), haven done abortion before when the respondent is a female ($r(410) = .131$, $p = 0.008$) and haven impregnated a girl when the respondent is a male ($r(410) = .148$, $p = 0.003$)

Table 4: Showing association between current substance use and risky sexual behaviours.

Variable	Correlation Coefficient (r)	p value
Often using substance during sex	0.206	0.000
Frequently sex (at least once in a month)	0.152	0.002
Unprotected sex	0.154	0.002
Having multiple sexual partners	0.180	0.000
History of sexually transmitted infection	0.159	0.001
History of HIV infection	0.039	0.434
If female, have you been pregnant before	0.131	0.008
If female, have you done abortion before	0.131	0.008
If male, have you impregnated a girl before	0.148	0.003

DISCUSSION

This study looked at psychoactive substance use and risky sexual behaviours among 412 adolescent students in Makurdi, north-central, Nigeria. The study revealed that (28.9%) of the respondents are currently using psychoactive substances. This is comparable to findings from a systematic review that reported a range of 32.9% to 69.2%^[7] as well as other previous studies from south-eastern and south-western Nigeria that reported a prevalence of a range of 0.4% to 34.9% and 30.5%^[24,25] respectively.

Out of the 412 teenage students recruited in the study, 67 (16.3%) are sexually active, which is similar to finding from studies from South-west Nigeria that reported 16.2%^[26] and a range of 18 to 22% respectively.^[27] It is however lower than the finding of 26.8% and 36% reported by another South west Nigerian study and an Ethiopian study respectively.^[28,29] This disparity can be attributed to lower ages of the participants in the current study. The Nigerian study involved participants between 16-19 years while only 0.74% of the participants were below 15 years, it is also low compared to 58% reported by a study in Liberia^[30] as well as some other studies from other parts of the world.^[15,31] The study also revealed that almost a quarter of the male students (23.9%) are sexually active than the female students (7.7%) which is similar to finding from previous study in among high school students in China^[32] (Li). This pattern contrast to another study in south-west Nigeria which reported a higher proportion of girls (20.2%) being sexually active than boys (16.6%).^[28] This can also be attributed to the higher age group of the adolescents (16-19 years) recruited for the study because sociological and cultural environment influence sexuality causing males to face peer pressure to carry out sexual behaviours earlier than females.^[33]

In the study, of the 67 participants that are sexually active, 73.1% engage in risky sexual behaviour. This is in agreement with studies from Ethiopia, Zambia and Thailand that reported 68.2%, 69.5% and 72.2% respectively.^[34-36] The finding is however higher than finding than studies conducted in Ghana, China that reported 42.1% and 41.5% respectively^[32,37] as well as three other studies from Ethiopia that reported 50.3%, 27.5% and 24.7%.^[29,38-39] This difference can be

accounted for by factors like calculation of the proportion of participants with risky sexual behaviour from the total sample size and not from those who are sexually active^[37,38], number of parameters used to determine risky sexual behaviours, sample size, cultural differences.

The study also revealed that current use of psychoactive substance is positively associated with high-risk sexual behaviours. The frequent use of substance during sex is a sexual risk behaviour associated with adverse health risk and outcome and it has been found to be significantly associated with substance use in this study. Other high risk sexual behaviours with positive association with substance use in the study which have also been replicated in previous studies include, having unprotected sex^[21,40-42], having multiple sexual partners^[21,30,41-42], sexually transmitted infection^[21,43-44], having frequent sex^[45], unwanted pregnancy (being pregnant as a female and impregnating a girl as a male^[21,30,43,46-47] and abortion among the female participants.^[48-49]

CONCLUSION

The study showed that substance use is common among teenage students in the study area and it is significantly associated with risky sexual behaviours including frequent use of substance before sex, unprotected sex, frequent sex, multiple sexual partners, pregnancy and abortion.

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SOURCES OF SUPPORT/ CONFLICT OF INTEREST

This study had no external source of support and there is no conflict of interest by any of the researchers.

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APPENDIX

INFORMED CONSENT FORM FOR PARTICIPANTS.

Dear Respondent, you are requested to participate in a study titled “**SUBSTANCE USE AND RISKY SEXUAL BEHAVIOR AMONG ADOLESCENT STUDENTS IN MAKURDI, NIGERIA**”. The purpose of the study is to find out how common is the use of psychoactive substance and its association with risky sexual behaviour. This study will help in the planning of awareness campaign against the use of psychoactive substances and will also guide policy formulation. All information obtained from you will be treated with strict confidentiality. Your name is not requested in the questionnaire and no one will know the particular questionnaire you filled. You are therefore assured that your name will not be used on any report that will come out of the study, but the data may be shared with other researchers for the purpose of promoting the course of medical knowledge. Your participation in the study is voluntary and you may withdraw at any time. Your decision not to participate in the study will affect you in anyway. If the explanations are clearer to you and you decide to participate in the study, please sign below.

Signature/Thumbprint of participant Date.....

Signature of witness Date

QUESTIONNAIRES

The information in this questionnaire is strictly for educational purposes. Absolute anonymity and confidentiality is guaranteed. Please read the questions carefully and answer them with all honesty as your sincere response will be of great benefit to the success of the study.

Thank you.

PRO FORMA QUESTIONNAIRE

Section A: Socio-demography

1. Age
2. Sex (i). Male [] (ii). Female []
3. Religion (i). Christianity [] (ii). Islam [] (iii). Others (specify).....
4. Class (i). SSS 1 [] (ii). SSS 2 [] (iii). SSS 3 []
5. Have you had sex before? (i) Yes [] (ii) No []
6. If yes, how old were you when you first had sex

Section B: Which of the following psychoactive substances have you used?

S/No	Psychoactive Substance	Never used	Used in the past	Current use
1	Alcohol/ Bitters/ Burukutu			
2	Cannabis (Igbo)			
3	Loud			
4	Skunk (SK)			
5	Methamphetamine (Ice)			
6	Codeine			
7	Tramadol			
8	Pentazocine			
9	Cigarette			
10	Tobacco			
11	Diazepam (Rouche)			
12	Coffee			
13	Energy drinks			
14	Heroin			
15	Cocaine/ Crack			

Section C: Risky sexual behaviours

1. Did you use substance during you first sexual encounter (i) Yes [] (ii) No []
2. Do you often use substance during sex? (i) Yes [] (ii) No []
3. Did you use substance during you last sexual encounter? (i) Yes [] (ii) No []
4. How frequently do you have sex?
 - a. (i) Occasionally []
 - b. (ii) Frequently (at least once in a month) []
5. Do you use condom or any other protection during sex? (i) Yes [] (ii) No []
6. Do you have more than one sexual partner? (i) Yes [] (ii) No []

7. Have you ever had sexually transmitted infection? (i) Yes [] (ii) No []
8. Are you HIV positive? (i) Yes [] (ii) No []
9. If you are a female,
- a. Have you been pregnant before? (i) Yes [] (ii) No []
- b. Have you done abortion before? (i) Yes [] (ii) No []
10. If you are a male,
- a. Have you impregnated a girl before? (i) Yes [] (ii) No []