

## Original Article

# Psychosocial Dysfunction among Adolescents Who Abuse Substances in Secondary Schools in Abakaliki, Nigeria

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### ABSTRACT

**Background:** Substance abuse has been associated with psychosocial dysfunction from previous reports; however, the prevalence and pattern of such morbidity is unknown in our environment. **Aims:** The aim of the study was to determine the prevalence and pattern of psychosocial dysfunction among adolescents who abuse substance. **Methods:** A case-control study was carried out among adolescents selected from five secondary schools in Abakaliki. A multistage sampling procedure was used to select the students and the World Health Organization student drug use questionnaire was used to screen respondents for substance abuse. Substance abusers and matched controls (non substance abusers) were assessed for psychosocial dysfunction using the 35-item Pediatric Symptom Checklist (PSC). Socioeconomic classification was done using the parental educational attainment and occupation. **Results:** Two hundred and four students were abusers of one or more substances. The mean PSC score for substance abusers was  $21.96 \pm 10.77$  whereas that for controls was  $16.07 \pm 8.69$  ( $t = -6.74$ ,  $P = 0.000$ ). Eighty-nine individuals (43.7%) and 28 controls (13.9%) had PSC scores in the morbidity range of  $\geq 28$  for psychosocial dysfunction. This was statistically significant ( $\chi^2 = 13.57$ ,  $P = 0.001$ ). Prevalence of dysfunction was significantly associated with age group, gender, and socioeconomic class in both participants and controls. The prevalence of dysfunction was significantly higher in multiple abusers than the single abusers. **Conclusion:** The prevalence of psychosocial dysfunction is higher in adolescents abusing substance than in controls. Psychosocial dysfunction was however not related to age, gender, or social classes in the study population but was related to the abuse of multiple substances.

**KEYWORDS:** Adolescents, psychosocial dysfunction, substance abuse

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## INTRODUCTION

Substance abuse is now recognized as a significant public health problem worldwide.<sup>[1]</sup> Data from school surveys in Nigeria have shown a rising prevalence and a decreasing age at onset of substance use.<sup>[2-5]</sup> They have also shown not just a rise in consumption, but also increasing female involvement and a trend toward multiple substance use among Nigerian adolescents.<sup>[2,3]</sup> During adolescence there are numerous emotional, psychological, and physical changes that may cause some distress and could result in experimentation

with substances. Abuse of alcohol is associated with depression, anxiety, and personality deterioration.<sup>[6]</sup>

Students who abuse substances are more likely to be involved in other social vices such as stealing and truancy, which suggests psychosocial impairment.<sup>[7-9]</sup> Stanley *et al.*<sup>[10]</sup> reported a 25% prevalence of substance-

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related psychiatric disorder among 411 patients in their review of childhood psychiatric disorders in Port Harcourt, South-south Nigeria. Their finding showed that alcohol and cannabis were the substances most commonly implicated in these patients. Similarly, Okwaraji<sup>[11]</sup> observed that 20% of outpatient psychiatric patients in Enugu Nigeria were substance-abusing adolescents. The author observed that depression was the most common psychiatric disorder. Psychosocial dysfunction varies among substance-abusing adolescents and may depend on the type of substance used as well as the extent of substance use. Psychosocial dysfunction occurs due to chronic use, acute intoxication, or following withdrawal from substance use.<sup>[4]</sup>

The school is a place where young people gather to learn. In schools students not only receive the instructions given during each participant, they also learn to interact with each other. Peer pressure and the need to belong to a certain group of friends arise in schools especially in the period of adolescence. Most substance abusers were introduced to it by friends at school.<sup>[12-14]</sup> Adolescents require mental well being to benefit from the school. Any impairment mentally may affect their interpersonal relations at school. There is however paucity of studies on psychosocial dysfunction of substance abusers in school, majority of data being hospital generated.

On this background, we decided to determine the presence of psychosocial dysfunction among substance-abusing adolescents in Abakaliki secondary schools.

## METHODS

### Study design

Case-control study.

### Setting

School-based study of five out of the 13 secondary schools in Abakaliki metropolis.

### Study population and sampling strategy

Six hundred and twenty senior secondary (SS) school students were selected in a multistage manner from five secondary schools in Abakaliki. The senior secondary school students were chosen because they provide the most accessible population of adolescents who would have abused various substances long enough to affect their mental health. Of the 13 approved secondary schools in Abakaliki, stratification was done by gender into male, female and coeducational schools. Two schools were girls-only, two were boys-only and nine were coeducational. Three coeducational schools were excluded, the school where a pilot study was done, and two other schools whose authorities declined consent leaving the researcher with six coeducational schools

to select from. All schools had their names written on sheets of paper for blinding and subsequently grouped into strata. The mixed schools were grouped into three strata with two schools in each stratum, which when combined with the boys-only and girls-only gave a total of five strata of two schools each. One school was subsequently selected from each stratum by ballot method. One male, one female, and three mixed schools were therefore selected. Respondents were selected from each school pro-rata according to school population. Subsequently, the respondents were selected from the various classes using the systematic interval width ( $I$ ) which was calculated using the formula,

$$I = \frac{N}{n}$$

where  $N$  is the number of students in the whole arms of a class and  $n$  is the number to be selected from the class. The first person was selected randomly and subsequently the interval width was applied to avoid bias. At the coeducational schools, students were stratified further into male and female, equal proportions were then selected from both male and female strata using systematic sampling as previously described.

### Ethical considerations

Ethical approval was obtained from research and ethics committee, federal teaching hospital Abakaliki. Written permission was also obtained from the State Ministry of Education, the various principals of participating schools, and parents of respondents. Informed verbal consent and ascent was obtained from the participants themselves. The students were assured of anonymity and confidentiality to reduce their anxiety regarding victimization and to detect their real pattern of substance use. Their teachers were not allowed into the hall during the filling of the questionnaire.

### Data collection

World Health Organization student drug use questionnaire was used to screen respondents for substance abuse. Substances included in the survey were alcohol, nicotine (in form of kola nut and coffee), cigarettes, cocaine, and cannabis. A participant was selected as a substance abuser if he/she had an uncontrollable (excessive) use of licit substances such as alcohol, coffee, cigarette, and kola nut. This was estimated by the number of respondents who responded affirmatively to the question "have you tried to stop or reduce your use of substances in the past 12 months and found that you were unable to do so?" Secondly, any use of an illicit substance such as cannabis or cocaine was regarded as abuse as defined by Odejide.<sup>[15]</sup> However, participants had to be current users of illicit substances, which is use within the past 30 days

preceding the study, to be selected as a substance abusers. Psychosocial function of these substance-abusing respondents was compared with those of nonsubstance-abusing adolescents using Pediatric Symptom Checklist (PSC).<sup>[16]</sup> The PSC is a brief psychosocial screening questionnaire with 35 items that identifies children and adolescents with psychosocial dysfunction.<sup>[16]</sup> A total score of 28 or more was taken as an indication of significant psychosocial dysfunction.<sup>[17]</sup> Participants were stratified into socioeconomic class using mothers highest education and fathers occupation.<sup>[18]</sup>

### Data analysis

Data were analyzed using SPSS Version 20 (IBM SPSS Statistics for Windows, Version 20.0. Armonk, NY: IBM Corp 2011). Descriptive statistics was used to find the prevalence of substance abuse. The Student's *t* test was used to compare means whereas frequencies in  $2 \times 2$  tables were compared using the Pearson's chi-square test or Fishers' exact test as appropriate. All calculations were based on a significant level of  $P < 0.05$ .

### RESULTS

A total of 620 students (297 males and 323 females) were screened for substance abuse. The mean age of the participants was  $16.57 \pm 1.39$  years with a male: female ratio of 1:1.09. Two hundred and four (32.9%) participants were substance abusers. Two hundred and two participants who did not abuse any substance and matched the participants with respect to age, gender, and socioeconomic class were selected as control.

The socio demography of participants and control are as shown in [Table 1]. The mean age for participants was  $17.09 \pm 1.33$  years. There were 120 (58.8%) males and 84 (41.2%) females giving a male: female ratio of 1.4:1. Socioeconomic stratification showed that 151 (74.5%), 32 (15.5%), and 21 (10.2%) of participants belonged to the lower, middle, and the upper strata. There were no significant differences in age ( $t = 21.402$ ,  $P = 0.623$ ), gender ( $\chi^2 = 0.634$ ,  $P = 0.541$ ), and socioeconomic ( $\chi^2 = 1.139$ ,  $P = 0.566$ ) class between participants and controls.

Among the participants, 96 (47.1%) were multiple substance abusers whereas 108 (52.9%) were abusers of a single substance. Alcohol recorded the highest single abuse prevalence of 180 (29.0%) whereas cocaine had the least prevalence of 13 (2.1%).

The range for PSC score for participants was 10-42 with a mean PSC score of  $21.96 \pm 10.77$  whereas that for controls was 3-35 with a mean of  $16.07 \pm 8.69$ . The difference in means was statistically significant ( $t = -6.74$ ,  $P = 0.000$ ). Eighty-nine participants (43.7%) had scores in the morbidity range of  $\geq 28$  for psychosocial

dysfunction on the PSC screening scale compared with 28 (13.9%) of controls. This was statistically significant ( $\chi^2 = 13.57$ ,  $P = 0.001$ ).

Table 2 shows psychosocial dysfunction of participant within gender age-group and socioeconomic class. Among the participants, 51 (57.3%) males compared with 38 (41.7%) females had psychosocial dysfunction, whereas 20 (71.4%) males and 8 (28.6%) females had psychosocial dysfunction among control. There was a statistically significant relationship between psychosocial dysfunction and gender in both participants ( $\chi^2 = 1.127$ ,  $P = 0.04$ ) and controls ( $\chi^2 = 4.321$ ,  $P = 0.02$ ).

Among the participants, the highest prevalence of psychosocial dysfunction was recorded among the late adolescent age group 56 (62.9%), whereas prevalence of psychosocial dysfunction was more among the middle adolescents in the control group 19 (67.9%). There was statistically significant difference between the proportions of students with psychosocial dysfunction and the age groups in both participants and controls (participants  $\chi^2 = 7.302$ ,  $P = 0.03$ ; controls  $\chi^2 = 5.383$ ,  $P = 0.02$ ). Psychosocial dysfunction within socioeconomic class is also described in [Table 2]. There was a significant higher prevalence of psychosocial dysfunction among those of the lower socioeconomic class for both participants and control (participant  $\chi^2 = 5.383$ ,  $P = 0.042$ ; control  $\chi^2 = 7.368$ ,  $P = 0.02$ ).

There was a higher prevalence of psychosocial dysfunction among multiple substance abusers 71 (79.8%) than of single substance abusers 18 (20.2%). All abusers of illicit drugs (cannabis and cocaine) were multiple substance abusers and had psychosocial dysfunction. Among the single substance abusers with psychosocial dysfunction, 56%, 35%, 9% were abusing alcohol, cigarette, kola nut plus coffee respectively.

**Table 1: Socio-demographic characteristics of subjects and controls.**

Socio-demographic variable	Subjects n (%)	Control n (%)	P
Age range (years)			
10-13	0 (0.0)	0 (0.0)	0.623
14-16	124 (60.8)	123 (60.9)	
17-19	80 (39.2)	79 (39.1)	
Gender			
Male	120 (58.8)	120 (59.4)	0.54
Female	84 (41.2)	82 (40.6)	
Socioeconomic class			
Lower	151 (74.5)	147 (72.7)	0.566
Middle	32 (15.5)	40 (20.0)	
Upper	21 (10.0)	15 (7.3)	

**Table 2: Psychosocial dysfunction within Gender, Age-group and Socioeconomic class**

Variable	Subjects PSC n(%)	Control PSC n(%)	$\chi^2$	P Value
Gender				
Male	51(57.3)	20(71.4)	*1.127	*0.04
Female	38(41.7)	8(28.6)	#4.321	#0.02
Total	89	28		
Age-Group				
11-13years	0(0.0)	0(0.0)	*7.302	*0.03
14-16years	33(37.1)	19(67.9)	#5.383	#0.02
17-19years	56(62.9)	9(32.1)		
Total	89	28		
Socioeconomic class				
Lower	54(60.7)	12(42.8)	*5.383	*0.042
Middle	20(22.4)	8(28.6)	#7.368	#0.02
Upper	15(16.9)	8(28.6)		
Total	89	28		

\*= Statistics for subjects, #= Statistics for control

## DISCUSSION

The current study noted a higher prevalence of psychosocial dysfunction among substance abusers than that of the control. Similar findings of higher rates of psychosocial dysfunction among substance abusers have been previously reported.<sup>[6,19,20]</sup> The prevalence of psychosocial dysfunction, 43.7%, obtained in this study, however, is higher than 24.1% reported in a previous study using similar rating scale in 2010.<sup>[20]</sup> The observed difference may be due to the varying definitions used for participants. Although this study recruited substance abusers (users of licit substances with signs of dependency and current users of illicit substances) as participants, the previous study<sup>[20]</sup> recruited current users of substances with no mention of dependency.

Previous studies<sup>[21-23]</sup> have shown similar findings with present study in the association of sociodemographic factors such as age, socioeconomic class, and gender with psychosocial dysfunction among substance abusers. Boys *et al.*<sup>[21]</sup> and Rey *et al.*<sup>[22]</sup> in separate studies had noted age as a significant risk factor for psychosocial dysfunction among substance abusers. In another study,<sup>[23]</sup> increasing age and lower socioeconomic class was reported to be strongly associated with psychosocial dysfunction. A Nigerian study by Okike<sup>[12]</sup> reported an association with male gender and low social class. The present study observed that psychosocial dysfunction was significantly more in the male gender, the lower socioeconomic class, and in late adolescence. The male gender has been shown to have an increased risk of substance use to the extent that could result in poor mental health.<sup>[12,24,25]</sup> Increased prevalence of psychosocial dysfunction in the lower

socioeconomic class may be due to other stressors associated with poverty, which coexist within this class.<sup>[12,25,26]</sup> Also the late adolescents have had more years of substance use and abuse resulting in increased prevalence of psychosocial dysfunction.

Multiple substance abuse has been shown in the present study to be associated with a higher frequency of psychosocial dysfunction in substance abusers. This may be due to the additive pharmacologic toxicities of these substances. Igwe and Ojinnaka<sup>[20]</sup> had earlier noted multiple substance use as a risk factor for psychosocial dysfunction in students who abuse substances. Also present study observed an increased prevalence of psychosocial dysfunction with the type of substance. All abusers of illicit substances had psychosocial dysfunction. This finding may not be unrelated to the pharmacologic properties of the different substances.

## CONCLUSION

There is a higher prevalence of psychosocial dysfunction among adolescent substance abusers in Abakaliki than that of their non substance-abusing peers. Multiple substance abuse and socio demographic factors of gender, age, and socioeconomic class were significantly associated with psychosocial dysfunction in substance abusers. This calls for school-based programs aiming at promoting healthy lifestyles of adolescents that help prevent substance use. We also recommend periodic screening not only for substance use but also for psychosocial dysfunction to ensure early case identification of possible psychosocial dysfunction in adolescents. Early case identification and appropriate management or referral will reduce the incidence of overt psychiatric manifestations of substance abuse.

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## Conflicts of interest

There are no conflicts of interest.

## REFERENCES

1. Belfer ML. International child and adolescent mental health review. Geneva: WHO, Department of Mental Health and Substance Dependence; 2003: 17-22.
2. Egbuonu I, Ezechukwu CC, Chukwuka JO, Unakwe R. Substance abuse among female secondary school students in Anambra State, South Eastern Nigeria. *Nig J Clin Pract* 2004;7:53-5.
3. Fatoye FO, Morakinyo O. Substance use among secondary school students in rural and urban communities in South Western Nigeria. *East Afr Med J* 2002;79:299-305.
4. Fatoye FO. Psychosocial correlates of substance use amongst secondary school students in South Western Nigeria. *East Afr Med J* 2003;80:154-8.
5. Obot IS. The epidemiology of tobacco and alcohol abuse in Nigeria. In Obot IS, editor. *Epidemiology and Control of Substance Abuse in Nigeria*. Centre for Research and information on Substance Abuse (CRISA), Jos; 1993;67-87.
6. Rehm J, Mathers C, Popova S, Thavorncharoensap M, Teerawattananon Y, Patra J. Global burden of disease and injury and economic cost attributable to alcohol use and alcohol use disorders. *Lancet* 2009;373:2223-33.
7. Brook DW, Brook JS, Pahl TIM. The longitudinal relationship between drug use and risky behaviors among Colombian adolescents. *Arch Pediatr Adolesc Med* 2002;156:1101-7.
8. Kebede D, Alem A, Mitike G, Enquesselassie F, Berhane F, Abebe Y, *et al.* Khat and alcohol use and risky sex behavior among in-school and out-of-school youth in Ethiopia. *BMC Public Health* 2005;5:109.
9. Sigqueirra LM, Brook JS. Tobacco use as a predictor of illicit drug use and related problems in Columbian youths. *J Adolesc Health* 2003;32:50-7.
10. Stanley PC, Eneh AU, Essien AA. Pattern of childhood disorders in Port Harcourt Niger Delta region of Nigeria (Jan 1999-Dec 2002). *Nig J Med* 2005;14:83-7.
11. Okwaraji FE. Socio-demographic and clinical features of adolescents attending an out-patient psychiatric clinic of a Nigerian university teaching hospital. *J Col Med* 2003;8:47-9.
12. Okike CO. Prevalence of substance abuse among secondary school adolescents in Abakaliki, Ebonyi state, South Eastern Nigeria [Dissertation]. West African College of Physicians; 2009.
13. Abiodun OA, Adelakan ML, Ogenremi OO, Oni GA, Obayan AO. Psychosocial correlates of alcohol, tobacco and cannabis use amongst secondary school students in Ilorin Nigeria. *West Afr J Med* 1994;3:213-7.
14. Odejide AO, Olatawura MO. Alcohol use in a Nigerian rural community. *Afr J Psychiatr* 1977;12:69-74.
15. Odejide AO. A nation at risk: Alcohol and substance abuse among Nigerian youth. Inaugural Lecture Delivered at the University of Ibadan; 1989;1-39.
16. Achenbach T, Rescorla L. Manual for the ASEBA (Achenbach System of Empirically Based Assessment) School-age Forms and Profiles. Burlington, VT University of Vermont, Research Center for Children, Youth, and Families; 2001.
17. Pope HG, Yurelun-Todd D. The residual cognitive effects of heavy marijuana use in college students. *J Am Med Assoc* 1996;275:521-7.
18. Olusanya O, Okpere EE, Ezimokhai M. The importance of social class in voluntary fertility control in a developing country. *West Afr J Med* 1985;4:252-5.
19. Rehm J, Taylor B, Room R. Global burden of disease from alcohol, illicit drugs and tobacco. *Drug Alcohol Rev* 2006;25:503-13.
20. Igwe WC, Ojinnaka NC. Mental health of adolescents who abuse psychoactive substances in Enugu Nigeria-A cross-sectional study. *Italian J Paediatr* 2010;36:36-53.
21. Boys A, Farrell M, Taylor C, Marsden J, Goodman R, Brugha T, *et al.* Psychiatric morbidity and substance use in young people aged 13-15 years: Results from the child and adolescent survey of mental health. *Br J Psychiatry* 2003;182:509-17. doi: 10.1192/bjp.182.6.509
22. Rey JM, Sawyer MG, Raphael B, Patton GC, Lynskey M. Mental health of teenagers who use cannabis. *Br J Psychiatry* 2002;180:216-21. doi: 10.1192/bjp.180.3.216
23. Goodman E, Capitman J. Depressive symptoms and cigarette smoking among teens. *Paediatrics* 2000;106:748-55. doi: 10.1542/peds.106.4.748.
24. Akhabue VO. Pattern of drug abuse among adolescents in secondary schools in Benin City [Dissertation]. National Postgraduate Medical College of Nigeria; 2000.
25. Igwe WC, Ojinnaka N, Ejiofor SO, Emechebe GO, Ibe BC. Socio-demographic correlates of psychoactive substance abuse amongst secondary school students in Enugu Nigeria. *Euro J Soc Sci* 2009;12:277-83.
26. Breyer J, Winter K. Adolescent brain development: Implication for drug use prevention. Center for substance abuse research. Department of Psychiatry; University of Minnesota and Mentor USA. 1-8. Available from: [www.mentorfoundation.org/pdfs/prevention\\_perspectives/19.pdf](http://www.mentorfoundation.org/pdfs/prevention_perspectives/19.pdf). [Last assessed on 2014 Mar 21].