

Assessment of alcoholic beverage addiction in Nigerian secondary school adolescents: a cross-sectional study using a self-administered questionnaire adapted from a validated WHO substance use questionnaire

CLIFFORD ONUORAH OKIKE^{1, A, B, E, F}, UZOAMAKA VIVIAN MUONEKE^{2, B-F},

ORCID ID: 0000-0003-2607-1002

PIUS CHUKWUKA MANYIKE^{3, F, G}, BENSON NNAMDI ONYIRE^{3, F, G}, OBINNA AJAEGBU^{1, B, F},
SAMUEL NKACHUKWU UWAEZUOKE^{2, E, F}

¹ Department of Paediatrics Federal Medical Centre, Asaba, Delta, Nigeria

² Department of Paediatrics, College of Medicine, University of Nigeria Teaching Hospital, Ituku-Ozalla, Enugu, Nigeria

³ Department of Paediatrics, College of Medicine, Ebonyi State University, Federal Teaching Hospital, Abakaliki, Ebonyi State, Nigeria

A – Study Design, B – Data Collection, C – Statistical Analysis, D – Data Interpretation, E – Manuscript Preparation, F – Literature Search, G – Funds Collection

Summary Background. Alcoholic beverage addiction among adolescents appears to be a global problem. However, its prevalence among secondary school adolescents in south-east Nigeria is poorly documented.

Objectives. To determine the prevalence of alcoholic beverage addiction among secondary school adolescents in a south-eastern Nigerian city.

Material and methods. 500 adolescents aged 12–19 years were recruited from 5 out of 9 secondary schools in a south-eastern Nigerian city by random sampling. The validated World Health Organization (WHO) drug-use questionnaire was adapted for the study and administered to these students. Data was analysed using descriptive and inferential statistics on SPSS Version 16.0. The level of statistical significance was set at $p < 0.05$.

Results. The prevalence of alcoholic beverage addiction was 48.2% (236/490) with a male: female ratio of 2.4:1. The addiction rate was highest amongst students aged 18–19 years (55.4%, 93/168, $p = 0.001$) and students from the middle socio-economic class (28/45, 62.2%, $p = 0.001$). Approximately 49% of the addicted students were initiated into consumption of alcoholic beverages by their peers, while 56.8% used it in order to achieve euphoria.

Conclusions. The prevalence of alcoholic beverage addiction among secondary school adolescents in this study is seen as high. Factors such as male gender, peer-group pressures, middle socio-economic class and being older were significant contributors to this high rate of alcohol addiction. Parental divorce and parental deaths were equally contributory to this high rate.

Key words: addiction medicine, alcoholic beverages, adolescent, peer influence, Nigeria.

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Background

Alcohol is a psychoactive substance which exerts a major effects on the brain and psychological functioning, resulting in such effects as sedation and a change in mood or behaviour, and it also possesses habit-forming potentials [1, 2]. Addiction is defined as uncontrollable or excessive substance craving or use that persists even in the face of negative consequences [3, 4].

In Nigeria, the use of alcoholic beverages during ceremonies to facilitate social interactions dates back to ancient times [5, 6]. Studies in Nigeria [5, 7–10], Ethiopia [11], the United States [12, 13] and by the World Health Organization (WHO) [14] show that alcohol is the major form of substance abuse among adolescents. For instance, an addiction rate of 9.5% was reported in a south-eastern Nigerian city [6], while a similar rate of 9.3% was documented amongst female secondary school students in a south-western Nigerian city [7]. Elsewhere in the northern-central part of the country, an addiction rate of 21% was noted

[15], while in a city in south Nigeria, a rate as high as 55% was reported [16]. Furthermore, other authors in north-western Nigeria showed that 36.2% of a cohort of secondary school students was addicted to alcoholic beverages [17]. In a more recent nationwide study in Nigeria, the prevalence of harmful use of alcohol was 34.7% [18], while earlier in 2016, the WHO reported a rate of heavy episodic drinking in Nigeria totalling 45.4% [19].

The relationship between religious adherence and alcohol addiction has been considered by researchers [11, 20–26]. Most of these studies showed that alcohol use was inversely related to frequency of participation in religious activities. While some reported more use and abuse among Muslims [26, 27], others demonstrated more use and abuse among Christians [20, 23]. On the other hand, others reported more use among African traditional worshippers [25].

Several reasons have been given for this addiction among adolescents. These include the urge to emulate peers and the desire to use advertising artists of alcoholic brands as role models [28–33].



Although attempts have been made to document the prevalence rates of alcoholic beverage addiction in Nigerian adolescents, a small number of such studies exist in south-eastern Nigeria. The present study aims to determine the prevalence rate of this addiction and the contributory factors among secondary school adolescents in a south-eastern Nigerian city.

Objectives

It is a known fact that in adults, addiction to alcohol is associated with several negative consequences, such as violence, stealing and other anti-social activities among those who indulge in this practice. The objective of this research was to determine the prevalence of alcoholic beverage addiction among secondary school adolescents in an attempt to highlight the fact that addiction to alcohol also occurs among secondary school adolescents in the study area. We also tried to identify predisposing factors to alcohol addiction among these adolescents.

This research is important to family medicine practice, because they may actually be the first group to give care to these addicted adolescents who may present with uncommon symptoms. When armed with the knowledge of this prevalence, diagnosis and possible referral to appropriate specialists for proper management become more tenable.

Material and methods

Study design

The study was a cross-sectional survey.

Study setting

This study was carried out among adolescents in senior secondary II and III (SSII and SSIII) schools in the Abakaliki municipality, Ebonyi State, in south-eastern Nigeria from January to March 2008.

Study participants

There are nine secondary schools in the Abakaliki Metropolis, out of which five schools comprising two public co-educational schools, one private co-educational school, one male and one female public school were selected by simple balloting.

For every school visited, all the students in SSII and III were stratified into male and female student groups, and 50 respondents were selected from each stratum using a systematic random sampling technique. A total of 500 respondents (100 from each school) were used for this study.

Interviews using structured questionnaires adapted from the WHO [24] student drug-use questionnaire (already tested and validated in the Nigerian student population) [25] were distributed to the respondents for completion. The questionnaire was prepared in English, was self-administered and was administered after explaining the purpose of the study. The majority of the responses were: "Yes", "No" and "Not Sure". Other responses were "Agree", "Strongly Agree", "Disagree", "Strongly Disagree" and "Not Sure".

Variables

The questions focused on various sub-themes, like socio-demographic information, source of initiation to alcohol use, reasons for alcohol use and the number of bottles drunk per day. Students who drank four bottles or more per day were classified as heavy drinkers, while those drinking less were classified as non-heavy drinkers.

Socio-economic classes of the respondents were determined using their mother's educational attainment and father's occupation [34].

Data sources/measurement

The data collected was manually sorted out, edited and coded. Ten completed questionnaires were rejected on the ground of inconsistencies.

Sample size determination

The total population of students in SSII and SSIII in the eleven urban schools, as documented by Ebonyi State Secondary Education Board in March 2007, was 5,784 [35]. Based on this figure, the minimum sample size of 349 was calculated using the formula: $n = Z^2Pq/d^2$ [36].

However, to increase sensitivity and to make allowance for returned questionnaires, this sample size was increased to 500.

Statistical methods

Data from the remaining 490 questionnaires was entered into a computer and analysed using the Statistical Package for Social Sciences (SPSS) Version 15.0 (SPSS Inc., Chicago, Illinois, USA). Frequency tables were generated for the demographic characteristics of the respondents. Qualitative variables were summarised by proportions. The chi-square test was used to determine levels of significance. Levels $p < 0.05$ were considered statistically significant.

Ethics approval and consent to participate

Ethical approval was sought and obtained from the Ethics Committee of Ebonyi State Secondary Education Board Abakaliki on 23 November 2007 with the protocol number: EBSSEB/AISCH/013. The principals were informed, while consent was obtained from the parents of the younger students and older students of the selected schools.

Consent to publish the obtained data was also obtained from both the parents and respondents, respectively.

Results

Participants

The sample ($n = 490$) comprised 246 males (50.2%) and 244 females (49.8%) with a male: female ratio of 1.01:1.0.

Descriptive data

490 of the participants returned completed questionnaires.

The age range of the participants was 12–19 years, with a mean age of 16.1 (0.8) years in all the schools. Approx. 50.2% of the students were in SSIII, while 49.8% were in SSII.

Main results

Approx. 67.5% (166/246) of the male students were addicted to alcoholic beverages, while only 28.7% (70/244) of their female counterparts were addicted. This difference in the addiction rate between the male and female respondents was statistically significant ($p < 0.001$). The overall prevalence rate of alcoholic beverage addiction was 48.2%, with a male: female ratio of 2.4:1 (Table 1).

Table 1. Alcohol beverage addiction by gender

Gender	Addicted	Non-addicted	<i>p</i>
Male (%)	166 (70.3)	80 (31.5)	$p < 0.0001$
Female (%)	70 (29.7)	174 (68.5)	
Total	236 (100)	254 (100)	

Alcoholic beverage addiction was found to be the most common among adolescents aged 18–19 years (55.4%; 93/168)

Table 2. Age of students vs alcohol addiction

Age (years)	No. of students in each age group	Students not addicted to alcohol <i>n</i> (%)	Students addicted to alcohol <i>n</i> (%)	Total (%)	<i>p</i>
12–13	1	0 (0)	1 (100%)	1 (100)	<i>p</i> < 0.001
14–15	125	87 (69.6)	38 (30.4)	125 (100)	
16–17	196	92 (46.9)	104 (53.1)	196 (100)	
18–19	168	75 (44.6)	93 (55.4)	168 (100)	

Table 3. Alcohol addiction vs socio-economic status and family background

Socio-economic status (<i>n</i>)	No. of students in each SES group	No. of students addicted to alcohol (<i>n</i>)	Percentage (%)	<i>p</i>
Upper	276	126	45.7	<i>p</i> < 0.001
Middle	45	28	62.2	
Lower	119	39	32.8	
Total	440	193		
Family background	No. of students (<i>n</i>)	No. of students addicted to alcohol (<i>n</i>)	Percentage (%)	<i>p</i>
Parents still married	345	137	39.7	<i>p</i> < 0.001
Parents divorced	28	28	100	
Parents dead	117	71	60.7	
Total	490	236	48.2	

Note: The socio-economic class of 50 students were not determined, because they did not indicate their mothers' educational attainment or their fathers' occupation.

when compared to those aged 14–15 years and 16–17 years, with addiction rates of 30.4% (38/125) and 53.1% (104/196), respectively, as shown in Table 2. The difference in the addiction rates of various age ranges reached a significant level ($p < 0.001$).

Alcoholic beverage addiction was most common among adolescents from middle socio-economic classes (62.2%, 28/45, $p < 0.001$) compared to adolescents from upper and lower socio-economic classes, with addiction rates of 45.7% (126/276) and 32.8% (39/119), respectively.

100% (28/28) of the students whose parents were divorced drank alcoholic beverages to a level compatible with addiction, while 60.7% (71/117) and 39.7% (137/345) of students whose parents were dead and whose parents were still married/living together, respectively, were addicted to alcoholic beverages, as shown in Table 3.

Most students who were addicted to alcoholic beverages (48.7%, 115/236) were initiated into using it by their friends. Those who started using it through parental influence amounted to 33.9% (80/236), while 15.3% (36/236) and 2.1% (5/236) were initiated through advertisement and classroom lecture on alcohol.

Table 4. Initiation and reasons for alcohol use

Source of initiation frequency percentage
Friends 115 (48.7)
Father 69 (29.2)
Mother 11 (4.7)
Advert 36 (15.3)
Classroom lecture on alcohol 5 (2.1)
Total 236 (100)
Reasons for alcohol use
The taste is pleasant 19 (8.0)
To feel euphoria 134 (56.8)
To talk to people 36 (15.3)
To forget worries 37 (15.7)
Curiosity 10 (4.2)
Total 236 (100)

Approximately 48% (134/236) drank alcoholic beverages because they wanted to experience euphoria, 15.3% (36/236) drank it to be able to communicate with the opposite sex, while 15.7% (37/236) drank alcoholic beverages to forget worries. 8% (19/236) and 4.2% (10/236) drank alcohol because they liked the taste and due to curiosity, respectively (Table 4).

Discussion

Key results/interpretation

The prevalence rate of alcoholic beverage addiction in this study is 48.2%, which is higher than the rates of 9.5%, 21%, 34.7% and 36.2% documented in later studies done between 2015 and 2019 [7, 15, 17, 18]. This finding may suggest that alcoholic beverage addiction is on the decline. However, our prevalence rate appears to be lower than the 55% reported in Abraka, Delta State, by Adje et al. in 2015 [16]. However, our prevalence rate appears to be lower than 55% reported in Abraka, Delta state by Adje et al. in 2015 [16]. Most riverine areas in Nigeria (towns located along a body of water e.g. river) as part of their culture are associated with excess alcohol consumption, hence, Abraka which is one of the riverine towns in Delta State, Nigeria is equally associated with high alcohol consumption [16]. The higher prevalence rate of 48.2% in this current study may also be due to the wide availability and unrestricted sale of alcohol in the municipality where the study was conducted.

This study has also shown that male adolescents were more addicted to alcoholic beverage than their female counterparts, which corroborates with studies in Ibadan [20], Ilorin and Nasarawa [22]. This finding is not surprising, because alcoholic beverage consumption by females is culturally unacceptable in Ibadan, in the South West and Ilorin/Nasarawa, in the north-central part of the country and, most importantly, in the environment of the current study [6, 8, 9].

Students from middle socio-economic classes were most significantly addicted to alcoholic beverages when compared to respondents in other social classes. This observation is in contrast with the other reports [31–33], which show that adolescents from the upper socio-economic class were addicted more than adolescents from other social classes. This may mean that

parents in these middle socio-economic classes show more a permissive attitude to the use of alcoholic beverages by their children than parents in the other social strata. It may also suggest that these items of addiction may actually be more accessible and available to these adolescents.

Alcoholic beverage addiction occurred most commonly among students whose parents were divorced or among those whose parents were dead. This finding agrees with that of previous reports which show that students from such homes have a high prevalence rate of alcohol addiction [8, 25, 27, 30]. This is not surprising, because the absence of parental supervision of adolescents from these homes may have strengthened an attachment to peers in school with similar addiction.

A majority of the students who were addicted to alcoholic beverages were initiated into its use by their friends. This finding agrees with the reports of many authors [28, 30–32] and confirms the explanation by one author that in search for independence from parental control, adolescents turn towards people of similar age or interests, such as peer groups [30]. The search for this independence may paradoxically lead to a dependence on peer group and the demands of the group, such as alcohol use.

The study revealed the fact that a significant number (29.2%) of these students were initiated into the habit by their fathers. This is not surprising, since alcohol consumption is a well-known part of the Nigerian culture, especially in Igboland, where the study was conducted. It frequently forms a significant part of festivals and celebrations. Traditionally, in most towns in Igboland, men are known to prefer to attend such cultural festivals with their sons, and they inadvertently end up introducing them to consumption of alcohol.

Approx. 15.3% of the respondents who were addicted to alcoholic beverages were initiated into it through advertisement. This finding lends credence to the report by Norman [28] and

Saffer [32] that alcohol advertising increases its use and subsequent abuse. The reason why advertisement is a significant factor in alcohol addiction is that since music or sports stars are used in the advertisement of alcoholic beverages, younger individuals have the impression that their consumption is desirable, acceptable and could make them be more like these models.

Limitations to the study

The study was conducted nearly 10 years ago, but was not published at the time of the study.

The questionnaire used for the study was adapted from the WHO substance use questionnaire, since this was the only questionnaire available and accessible to us as at the time of the study.

Conclusions

Alcoholic beverage addiction among secondary school adolescents in the present study is high and more common in males than females. Alcoholic beverage addiction among secondary school adolescents in the present study is high and commoner in males than females. Poor parenting, peer influence, and alcoholic beverage advertisements were the key factors that contributed to addiction.

It is the belief of the authors that if this high prevalence rate is not curbed appropriately and timely, unwanted and criminal consequences could result. Re-introducing guidance and counselling as a subject in the academic curriculum of all secondary schools may provide a valuable solution.

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Address for correspondence:

Uzoamaka Vivian Muoneke, MD

Department of Paediatrics

College of Medicine

University of Nigeria

University of Nigeria Teaching Hospital Enugu

Nigeria

Tel.: +234 8037432258

E-mail: uzoamakamuoneke@gmail.com