Alcohol Use Disorders among Nigerian University Students: Prevalence and Sociodemographic Correlates

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SUMMARY

Background College students also frequently reside in different physical and social environments and encounter new social and institutional factors that may foster heavy alcohol use. Little is known about alcohol use disorders in non-western cultures.

Aims This study aimed to estimate the prevalence and examine the socio-demographic correlates of alcohol use disorders among students in Nigerian colleges.

Method A cross sectional survey in which 2,658 undergraduates (males=1913, females=745) from 6 colleges in Osun state, south-western Nigeria were assessed for alcohol use disorders using the Mini International Neuropsychiatric Interview (MINI).

Results The 12-month prevalence for alcohol dependence is 0.8% (1.1% for male and 0.13% for female) and for alcohol abuse is 3.5% (4.4% for male and 1.1% for female). Factors independently associated with a diagnosis of alcohol use disorder include parental drinking (OR 12.00, 95% CI 6.32-22.78), male gender (OR 5.40, 95% CI 2.62-11.14), higher economic status (OR 2.57, 95% CI 1.59-4.18) and being non-religious (OR 9.92, 95% CI 4.43-22.23).

Conclusions Alcohol use disorders are common among Nigerian college students. Effective methods of early identification and forms of anti-alcoholic education are needed. Parental drinking habits and religiosity will have to be considered while
planning intervention and preventive strategies.

INTRODUCTION

Alcohol use contributes to a range of acute and chronic health consequences and alcohol use disorders are responsible for a considerable burden of diseases worldwide (Michaud et al, 2001). Epidemiological investigations in the western world had suggested a combined 1-year prevalence rate for alcohol abuse and dependence of 4.7-10% (American Psychiatric Association, 2000; Meltzier et als, 1994). In a cross-section of 10 different cultural regions of Europe and Asia, lifetime prevalence varied from about 0.5% in Shanghai to 22% in Korea (Helzer and Canino, 1992).

Heavy drinking among college students has become a major public health problem with high magnitude of alcohol-related mortality and morbidity (Hingson et al., 2002). There is consistent evidence suggesting that young adults in colleges suffer from a clinically significant alcohol related problem compared to their non-college attending peers (Slutske, 2005).

A recent study among college students in US found that 31% of students endorsed criteria for an alcohol abuse diagnosis and 6% for a dependence diagnosis in the past 12 months (Knight et al, 2002). Another study among US College students aged 18-29 years found that 7% met the DSM-IV criteria for alcohol abuse and 9.2% met the criteria for alcohol dependence (Dawson et al, 2004). In Belgium a

higher percentage was found, with 14.1% of college students diagnosed with alcohol abuse and 10.5% diagnosed with alcohol dependence (Aertgeerts et al, 1999).

College students are often undergoing role transitions-such as moving away from the family home for the first time, residing with other students, and experiencing reduced adult supervision that may increase the risk of alcohol use and abuse (Read et al, 2002). College students also frequently reside in different physical and social environments and encounter new social and institutional factors that may foster heavy alcohol use.

Alcohol use disorders have been shown to be more prevalent among male and young adults (Dawson et al, 2004; Peltzer et al, 2002); people who started drinking from a younger age (Grant and Dawson, 1997) children of parents with drinking problems (Weitzman and Wechsler, 2000) and students with low scores on religiosity (Luczak et al, 2003; Peltzer et al, 2002).

A review of the studies on alcohol use in Nigeria shows that there has been a rapid increase in alcohol availability and consumption in recent times with young adults in universities and colleges mainly concerned (Abiodun, 1991). A 77% lifetime prevalence of alcohol use had been found among Nigerian undergraduates (Adelekan et al, 1992) compared with between 51.5% and 56.0% found among youths in Nigerian cities (Odejide et al, 1987). Perceived harmlessness, perceived availability, low religiosity and poor parental/guardian supervision had been

significantly associated with drugs and alcohol use among Nigerian college students (Adelekan et al, 1993).

These Nigerian studies are few and had focussed on the use of alcohol while little is known about alcohol use disorders among Nigerian college students. There are undoubtedly wide variations between countries in the real prevalence of alcohol-related disorders. Factors such as changes in values and standards of living and imitation of western societies are likely to have an effect on the rate of alcohol use disorders in a developing country like Nigeria. Extensive epidemiological study on the prevalence and correlates of alcohol use disorders in Nigeria is needed in order to accurately determine the population affected and plan intervention strategies.

This study aimed to estimate the prevalence and examine the socio-demographic correlates of alcohol use disorders among students in Nigerian colleges.

METHODS

Subjects
The study group consisted of students from six colleges in Osun state in western Nigeria, including one university, three polytechnic colleges and two colleges of education. The combined population of students in the six colleges is about 100,000. The students are from various ethnic and religious groups in the country. All colleges have residence halls and living quarters that accommodate about 40% of their student population.

Sampling technique and sample size
The students were approached through their halls of residence. A multi-staged sampling technique was adopted. In the first phase, the blocks of flats in each of the halls of residence in each college were mapped out. After that, even numbered rooms in each flat were subsequently selected. In the third stage, two students were selected at random from each of the even-numbered rooms for the interview.

There were a total of 58 halls, 332 blocks and 3102 rooms. This sampling scheme produced a sample with approximately equal probability of selection of each member. A final sample of 3102 was therefore obtained. Out of this number, 444 refused to participate, leaving a sample size of 2658 (86 % response rate).

Procedure
The Ethics and Research Committee of the Obafemi Awolowo University Teaching Hospital Complex (OAUTHC) approved the study protocol, and informed consents were obtained from the participants after the aims and objectives of the study had been explained. The participants first completed a questionnaire asking about the age, sex, tribe, religion, age at commencement of drinking, marital status, monthly allowance from parents or other sources, parental marital status, parental drinking and smoking. They were then asked whether they drank alcohol or not and whether they had used alcohol in the previous 12 months.

Research assistants (n=10) who were medical students in psychiatry posting, who had received a 2-week training session in the use of alcohol use disorders module of the Mini International Neuropsychiatric Interview (MINI) (Sheehan et al, 1998) from a qualified psychiatrist conducted the interviews. They used the MINI to assess all participants who had used alcohol in the past 12 months for the DSM-IV (American Psychiatric Association, 2000) diagnosis of alcohol dependence and alcohol abuse. The MINI was designed as a brief structured interview for the major Axis I psychiatric disorders in DSM-IV. Validation and reliability studies have been done for MINI with the results showing that the MINI has acceptably high validation and reliability scores.

The interviews were conducted in English, which is the official and the most common language in Nigeria, a multilingual country with over 200 languages and dialects. Since the MINI is structured in a simple, lay language that is easy to understand and the

participants were students in tertiary institutions, no problem was encountered in administering the instrument. Two psychiatrists cross checked the research assistants' diagnosis by reassessing all those diagnosed by the research assistants as having alcohol used disorders and 10% of those who had use alcohol in the past 12 months but without a diagnosis of alcohol use disorder. The mean inter-rater reliability between the interviewers, measured with Cohen's k, was 0.87.

Statistical analysis

The Statistical package for the Social Sciences 11(SPSS.11) program was used by the author for statistical analysis. Cases were defined according to their DSM-IV diagnosis. Independent sample t test, Fisher's exact test and Pearson's Chi Square were all used in calculating differences between groups. All tests were 2-tailed and the level of significance was set at $P<0.05$. Significant variables were then entered into a regression analysis to determine the variables independently associated with Alcohol Use Disorder (AUD). Odds ratio (OR) and 95% Confidence Interval (95% CI) was then calculated for the independently associated variables.

RESULTS

Socio-demographic data of the participants

The average age of the participants in years was 23.72 (S.D. =6.54) with a range of 15 to 44 years. There were 1913 (72.0%) males. There were 1680 (63.2%) participants from the Yoruba ethnic group, 520 (19.5%) from the Igbo ethnic group, 302 (11.4%) from the Hausa ethnic group and the rest, 156 (5.9%), consisted of other ethnic groups and foreigners. 156 (5.9%) of the participants were married and 1,382 (52.0%) of them were from a monogamous family. 412 (15.5%) of them reported a drinking history in their fathers while 68 (2.6%) reported that both their parents drank. In addition, paternal smoking was reported in 382

(14.4%) while 12 (0.5%) reported smoking by both parents. 1834 (69.0%) of them collect a monthly allowance of less than N5, 000.

Prevalence and correlates of alcohol use disorders (AUD)

The 12-month prevalence of alcohol use and alcohol use disorders according to sex is outlined in table 1. Univariate analysis shows that the significant correlates of alcohol use disorders (combined alcohol dependence and alcohol abuse) include the following age (T=2.020, df=2656, P<0.040), gender (X^2=26.066, df=1, P<0.001), religion (X^2=39.047, df=2, P<0.001), marital status of the parents (X^2=18.648, df=3, P<0.001), parental drinking (X^2=144.928, df=2, P<0.001), parental smoking (X^2=69.433, df=2, P<0.001) and monthly allowance (X^2=21.176, df=2, P<0.001).

When these significant factors were then entered into a logistic regression analysis, the factors independently associated with alcohol use disorders included parental drinking, monthly allowance, sex, religion and age (Table 2). The calculated odds ratio and 95% confidence interval for the independently associated variables are outlined in table 3.

Table 1   12-month prevalence of alcohol use and alcohol use disorders among Nigerian college students

	Total (n=2,658)	Male (n=1913)	Female (n=745)
Alcohol use	1642 (61.8%)	1415 (74.0%)	227 (30.5%)
Alcohol abuse	93 (3.5%)	85 (4.4%)	8 (1.1%)
Alcohol dependence	21 (0.8%)	20 (1.1%)	1 (0.1%)
Alcohol use disorders (combined dependence and abuse)	114 (4.3%)	105 (5.5%)	9 (1.2%)

Table 2   Logistic regression analysis of the variables associated with alcohol use disorders among Nigerian college students

Variables	Standard error	B	T	P
Parental drinking	0.021	0.460	16.900	<0.001
Monthly allowance	0.072	0.384	12.779	<0.001
Sex	0.005	0.243	8.400	<0.001
Religion	0.021	0.144	4.333	<0.001

Table 3   Odds Ratio and 95% Confidence interval for the variables independently associated with alcohol use disorders among Nigerian college students

Variable	Total (n=2,658)	AUD (n=114)	No AUD (n=2544)	OR (95% CI)
Parental drinking				
No parent drinks	2178	47	2131	1 (reference)
Father alone drinks	412	52	360	6.55(4.34 - 9.86)
Both parents drink	68	15	53	12.00 (6.32 - 22.78)
Monthly allowance				
< ₦5,000 per month	1834	68	1766	1 (reference)
₦5,000 - ₦10,000	585	22	563	0.97 (0.59 - 1.57)
> ₦10,00 per month	239	24	215	2.57 (1.59 - 4.18)
Gender				
Female	745	8	737	1 (reference)
Male	1913	106	1807	5.40 (2.62 - 11.14)
Religion				
Islam	983	22	961	1 (reference)
Christianity	1621	82	1539	2.33 (1.44 - 3.75)
No religion	54	10	44	9.92 (4.43 - 22.23)

NOTE : **AUD** = Alcohol use disorder; **No AUD** = No diagnosis of Alcohol use disorder **OR (95% CI)** = Odds Ratio (95% Confidence Interval) **Naira (₦)**=Nigerian Currency

DISCUSSION

This study aimed at estimating the 12-month prevalence of alcohol use disorders among college students in western Nigeria. The 4.3% prevalence rate for alcohol use disorders in Nigerian college students in this study seemed lower than found among their peers from western cultures (Aertgeerts et al, 1999; Dawson et al, 2004; Knight et al, 2002). There are undoubtedly wide variations between countries in the real prevalence of alcohol-related disorders, and some of the apparent differences may stem from the contrasting cultural perspective of what constitute alcohol misuse.

The strong association between parental drinking and alcohol use disorders found in this study is in agreement with other studies that had reported that parental drinking problems constitute a risk to alcohol related problems for young adults (Peltzer et al, 2002; Weitzman and Wechsler, 2000). It is also noted that drinking by both parents substantially increased the risk of alcohol use disorders (OR 12.832, 95% CI 6.753 - 24.384) compared to drinking by father alone (OR 6.55, 95% CI 4.34-9.86). This is in support of an earlier study (Weitzman and Wechsler, 2000) which reported 23 % of children of mothers with drinking problems meeting the DSM-IV criteria for alcohol use disorders.

This study found that alcohol use disorder was more common among students receiving higher monthly allowance. This finding is in disagreement with an earlier study among college students in South Africa (Peltzer et al, 2002) that had reported no association between economic status and drinking pattern. Nigeria is a country with a low per-capital-income and only people at a higher socio-economic class could afford money for excessive drinking that may lead to alcohol-related problems. This study also confirms the earlier findings that males drink more than females and are therefore more liable to alcohol use disorders (Dawson et al, 2004; Peltzer et al, 2002).

Religion was found to be an independent correlate of alcohol use disorders in this study. Followers of Islam, which proscribed alcohol, were expected to use alcohol less. Alcohol use disorder was found to be most prevalent in those who did not indicate their religion. Lack of religiosity had earlier been found to be a correlate of alcohol and substance use among undergraduates in Nigeria. (Adelekan et al, 1993). The same trend had also been reported among South African college students (Peltzer et al, 2002) and Korean American and Chinese American college student (Luczak et al., 2003).

This study had some limitations. The study group consisted of college students alone. The prevalence of alcohol use disorders may not be generally applicable to the community. The study had also considered only the alcohol use disorders of dependence and abuse neglecting people with hazardous alcohol use. This study had also not considered co-morbid psychiatric diagnoses. The strength of the study lies in it being the first in Nigeria to examine the prevalence of alcohol use disorders, its large sample size and its multi-centred nature.

The prevalence of alcohol dependence and alcohol abuse among Nigerian college students were 0.8% and 3.5% respectively. There were significant associations between alcohol use disorders and parental drinking, being male, higher monthly allowance and lack of religion. These factors will have to be considered when planning effective intervention and preventive strategies.

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