RESEARCH REPORT

Psychoactive substance use among medical students in a Nigerian university

ALFRED B. MAKANJUOLA[1], TEMITAYO O. DARAMOLA[1], AYO O. OBEMBE[2]

[1]Department of Behavioural Sciences, University Teaching Hospital, P.O. Box 617, Ilorin, Nigeria
[2]Department of Medicine, Usman Dan Fodiyo University, Sokoto, Nigeria

The study was aimed at determining the prevalence, pattern and factors associated with psychoactive substance use among medical students in the University of Ilorin, Nigeria. All consenting medical students were requested to compile a 22-item modified, pilot-tested semi-structured self-report questionnaire based on the World Health Organization's guidelines for student substance use survey. It was found that the most currently used substances were mild stimulants (33.3%), alcohol (13.6%), sedatives (7.3%) and tobacco (3.2%). Except for tobacco, the use of these substances seemed to be only instrumental. Substance use was directly associated with male gender, living alone, self-reported study difficulty, being a clinical student, and being aged 25 years or more. There was an inverse relationship of substance use with religiosity and good mental health.

Key words: Psychoactive substance use, medical students, Nigeria

(World Psychiatry 2007;6:112-114)

Substance use is becoming increasingly widespread in many African countries (1-3). In Nigeria, a substantial percentage of the national budgetary health allocation is utilized for treatment and rehabilitation of people with substance use problems (2). In this country, industrialization, urbanization and increased exposure to Western life style have contributed to the spreading of substance use, with alcohol and tobacco acting as "gateway drugs" to the use of other substances like cocaine, heroin, amphetamine, inhalants and hallucinogens (4). Factors like unhealthy family background, high social class, peer-group influence, desire to remain awake at night, pressure to succeed in academic work, self-reported poor mental health, and easy accessibility of drugs have also been implicated (4-7).

Several studies have reported alarming rates of substance abuse in student populations (2,8-13). The university experience is unique as it provides students with the first opportunity to be part of a larger group of peers without parental supervision. It also represents the perceived (by students) last period of freedom before taking on the responsibilities of adulthood. This makes them more vulnerable to try novel, previously prohibited and sometimes illicit experiences (14,15). Furthermore, it has been suspected that the use of substances like cannabis, heroin, cocaine and to some extent alcohol may have to do with the spreading of secret cults among university students (5,16).

In Nigeria, there are only a few published studies focusing on substance use among medical students (17-19), none of which has been carried out in the area covered by the present investigation.

METHODS

The study was carried out between February and March 2004 at the University of Ilorin, a federal institution which mainly admits students from its government designated catchment states (Kwara, Kogi, Benue and Niger), although students from other parts of the country may also be admitted. Following permission from the University authorities, the students were informed about the purpose of the study and also assured that their responses would be kept confidential. Those who were unwilling to partake were reassured of no negative consequences.

All consenting medical students were requested to compile a modified pilot-tested semi-structured self-report questionnaire based on World Health Organization's guidelines for student substance use survey (20). The instrument had been previously used and found reliable and valid among Nigerian students (21). The questionnaire consists of 22 items covering demographic characteristics (6 items), frequency and age of first use of 14 types of substances, including alcohol and tobacco (14 items), and the honesty with which the questions are answered (2 items). The modified semi-structured questionnaire was pilot-tested among 20 non-medical students from the same university and was found quite understandable and usable for this study.

Data was analysed using the Epi Info version 6.02 software. Frequency tables were generated and relevant cross tabulations made. Means were compared using Student's t-test, while proportions were compared using the chi-square test.

RESULTS

Of 1,420 registered medical students on campus during the study period, 961 (68%) participated in the survey. Questionnaires from 906 (94.3%) students were considered valid for analysis. Six hundred and twenty five respondents (69%) were males. Age ranged from 16 to 43 years (mean 22.4±3.2 years). Forty five percent of respondents were clinical students. More than half (52%) of the respondents were from families with 5-9 living children. About 26% of respondents reported to be the eldest child

of the family, and about 14% the last; less than 1% reported to be the only child of the family. The majority of respondents had parents belonging to a middle class occupational status, according to the International Labour Organization's classification (56.2% of fathers and 70.2% of mothers). About 25% of respondents' fathers had more than one wife. More than 32% of respondents lived alone or with friends while at school. Six hundred and seventy one (74.1%) respondents claimed they were very religious. About 68% of respondents were Christians, 32% were Moslems, and less than 1% practiced other religions.

Tobacco was the substance most heard of (99.4%), while anabolic steroids were the least heard of (48.9%). Almost all respondents had seen cigarettes and reported that they are freely available locally. The majority of respondents had heard of cannabis (92.5%), but only 37.6% of them had ever seen it; about half (48.8%) of the respondents were aware of its local availability. Of the substances ever being offered to respondents, mild stimulants ranked first, with about 78% respondents admitting that they had been offered in the past; alcohol ranked second (43.2%) and sedatives (sleeping tablets) ranked third (27.4%). Only few respondents (8.2%) admitted they had been offered cannabis in the past. Cocaine and heroin were the least offered psychoactive substances, with only 1.7% and 1.3%, respectively, admitting being offered.

Current use of one or more psychoactive substances was reported by 40.4% of all respondents, 35.6% of whom were using more than one substance. The overall lifetime prevalence of substance use was 78%. The most frequently used substances (both currently and lifetime) were mild stimulants, followed by alcohol, sedatives and tobacco (Table 1). No subject reported current use of cocaine or heroin. The vast majority of the users of mild stimulants, alcohol and sedatives (82.0%, 82.8% and 93.9%, respectively) reported using them only monthly. Of 29 tobacco users, 51.7% used it monthly, 31.0% weekly and 17.2% daily.

About 44% of male and 33% of female respondents reported current use and 69% of males and 31% of females reported lifetime use of one or more psychoactive substances. A significantly higher proportion of males than of females were current (17.6% vs. 4.7%, χ^2=26.06, p<0.001) or lifetime (42.8% vs. 27.0%, χ^2=19.84, p<0.001) users of alcohol; lifetime users of tobacco (14.3% vs. 2.1%, χ^2=28.91, p<0.001); lifetime users of cannabis (3.1% vs. 0.4%, χ^2=5.20, p=0.023); lifetime users of mild stimulants (70.1% vs. 62.7%, χ^2=4.53, p=0.033); and lifetime users of sedatives (29.1% vs. 22.6%, χ^2=3.77, p=0.052). Current use of cannabis and anabolic steroids was only reported among the males.

Table 1 Prevalence rates of psychoactive substance use

Substance	Current use (%)	Lifetime use (%)
Alcohol	122 (13.6)	341 (38.0)
Tobacco	29 (3.2)	95 (10.5)
Cannabis	5 (0.6)	20 (2.3)
Mild stimulants	300 (33.3)	612 (67.9)
Strong stimulants	6 (0.7)	19 (2.1)
Sedatives	66 (7.3)	244 (27.0)
Anabolic steroids	4 (0.4)	13 (1.4)
Cocaine	-	5 (0.6)
Heroin	-	6 (0.7)
Sniffing agents	6 (0.7)	26 (2.9)

Current use of alcohol was significantly associated with living alone during school period (χ^2=20.18, p<0.001), self-reported study difficulty (χ^2=10.39, p<0.001), being a clinical student (χ^2=9.28, p<0.01) and age 25 years or above (χ^2=4.75, p<0.05). Respondents with self-reported good mental health were less likely to be current users of alcohol (χ^2=7.29, p<0.05). Respondents who claimed they were very religious were less likely to be current users of alcohol (χ^2=76.01, p<0.001), tobacco (χ^2=90.64, p<0.001) and mild stimulants (χ^2=3.07, p<0.01).

There was a significant association between lifetime alcohol use and that of tobacco (χ^2=107.9, p<0.001), mild stimulants (χ^2=60.7, p<0.001), sedatives (χ^2=37.9, p<0.001), sniffing agents (χ^2=12.6, p<0.001) and cannabis (χ^2=10.28, p<0.001). Similarly, there was a significant association between lifetime use of tobacco and that of cannabis (χ^2=59.0, p<0.001), mild stimulants (χ^2=12.2, p<0.001), sedatives (χ^2=16.8, p<0.001), sniffing agents (χ^2=25.4, p<0.001), and anabolic steroids (χ^2=8.27, p<0.01). Lifetime cannabis use was significantly associated with lifetime use of stimulants (χ^2=11.39, p<0.01) and anabolic steroids (χ^2=17.47, p <0.01).

DISCUSSION

In our sample, the most currently used psychoactive substances were mild stimulants (33.3%), followed by alcohol (13.6%), sedatives (7.3%), and tobacco (3.2%). This seems to differ from an earlier study among medical students in Enugu, Nigeria, which found alcohol to be the most currently abused substance (18). The difference might be due to increased proliferation of religious groups/activities on campuses between 1988 and the time of study, national economic downturn, and discouragement of sales of alcohol on campus. Mild stimulants are largely socially tolerated, accessible and affordable, which may be responsible for their relatively higher prevalence in this study. They are mainly used while preparing for examinations (4,6).

The current use of sedatives ranked third, with about 7.3% of respondents being users. This is consistent with earlier reports among all undergraduates (medical and non-medical) of the same university (12). Less than 1% of respondents admitted current use of strong stimulants, cannabis, anabolic steroids and sniffing agents. No current use was reported of cocaine and heroin, which is in keeping with previous studies among medical students in Enugu (18) and Ogun state (19). This may be related to the good knowledge of the risks of cocaine and heroin use among the respondents, as perceived harmfulness had been shown to have an inverse relationship with substance use (22). Lifetime use of all substances was relatively low

when compared with previous studies among medical students within and outside the country (18,19,23).

The observation that significantly more males were users of alcohol and tobacco is in keeping with previous studies in Nigeria (17,24). That respondents living alone were more likely to use alcohol may be contrary to reports that substances are usually taken in company of peers: this pattern of alcohol use may represent a strategy for self-medication associated with social exposure anxiety rather than a ritualized social behaviour.

It is also noteworthy that clinical students were significantly more likely to be current users of alcohol. This finding, supporting previous reports of highest prevalence of substance use among clinical students in Enugu, Nigeria (18), may be explained by the fact that most clinical students stay alone and off-campus during school terms, due to insufficient accommodation on campus. In addition, previous studies have reported that, since clinical students tend to have more access to funds, they may be more predisposed to substance use (19).

The presence of self-reported study difficulty was found to be significantly associated with current use of alcohol, mild stimulants and sleeping tablets. This is in keeping with previous findings that students with study difficulty tend to use mild stimulants to remain awake for long periods (4,6,25). Such students may then need to use sleeping tablets to reverse or step down the effect of mild stimulants. Respondents with self-reported good mental health were also found to be less likely to use alcohol and sleeping tablets. This is in keeping with previous report of a significant association between current use of alcohol and self-reported poor mental health (25).

The finding that lifetime use of substances such as alcohol, tobacco and cannabis was significantly associated with the lifetime use of substances such as mild stimulants, sedatives and sniffing agents is in keeping with the "gateway theory" (4,26). We suggest that, where there is shortage of resources (fund, manpower, etc), efforts aimed at controlling substance use or abuse should be directed at "gateway drugs".

Planners of medical education should lay more emphasis on the risks of psychoactive substance use in medical curriculum right from preclinical schools, while governmental and non-governmental bodies should focus increased attention on medical students in campaigns against substance abuse. These efforts might increase the chance of producing more drug-free future doctors.

References

1. Ebie JC, Obiora M. Use and abuse of psychoactive pharmaceuticals in Nigeria. Nigerian J Psychiatry 1988;1:181-5.
2. Adelekan ML. West Africa sub-region: an overview of substance abuse problems. Drugs: Education, Prevention and Policy 1996; 3:231-7.
3. Adelekan ML, Stimson GV. Problems and prospects of implementing harm reduction for HIV and injecting drug use in high-risk sub-Saharan African countries. J Drug Issues 1997;27:97-116.
4. Abiodun AO, Adelekan ML, Ogunremi OO et al. Psychosocial correlates of alcohol, tobacco and cannabis use amongst secondary school students in Ilorin, Nigeria. West Afr J Med 1994;13:213-7.
5. Attah-Johnson FY. Attitudes of Nigerian medical students towards use and abuse of tobacco, alcohol and drugs. Drug Alcohol Dependence 1985;15:323-34.
6. Adelekan ML, Abiodun OA, Imuokhome-Obayan AO et al. Psychosocial correlates of alcohol, tobacco and cannabis use; findings from a Nigerian university. Drug Alcohol Dependence 1993; 33:247-56.
7. Zhimin L, Weihua Z, Zhi L et al. The use of psychoactive substances among adolescents in an area in the south west of China. Addiction 2001;96:247-50.
8. Anumonye A. Drug use among young people in Lagos, Nigeria. Bulletin on Narcotics 1980;32:39-92.
9. Baptista T, Novoa D, Hernandez R. Substance use among Venezuelan medical and pharmacy students. Drug Alcohol Dependence 1994;34:1217.
10. Bell R. Correlates of college student marijuana use: results of a US National survey. Addiction 1997;92:571-81.
11. Anochie IC, Nkanginieme K. Social correlatives of drug use among secondary school students in Port Harcourt, southern Nigeria. Sahel Medical J 2000;3:87-92.
12. Adelekan ML, Ndom RJE, Makanjuola AB et al. Trend analysis of substance use among undergraduates of university of Ilorin, Nigeria, 1988-1998. African J Drug Alcohol Studies 2000;1:39-52.
13. Gledhill-Hoyt J, Lee H, Strote J et al. Increased use of marijuana and other illicit drugs at US colleges in the 1990s: results of three national surveys. Addiction 2000;95:1655-67.
14. Walsh A. Drug use and sexual behaviour: users, experimenters and abstainers. J Soc Psychol 1992;132:691-3.
15. Leibsohn JM. Relationship between drug and alcohol use and peer group association of college freshmen as they transit from high school. J Drug Education 1994;24:177-92.
16. Aje SA, Akanbi A, Folorunsho I. Problems of cultism in Nigerian schools. Ilorin: INDEMAC, 2000.
17. Alakija W. Smoking habits of medical students of university of Benin, Nigeria. Nigerian Med J 1984;14:171-4.
18. Ihezue UH. Drug abuse among medical student at a Nigerian university campus: Part One - Prevalence and pattern of use. J National Medical Association 1988;80:81-5.
19. Akinhanmi AO. Drug abuse among medical students in a state university in Nigeria. A study of the prevalence and pattern of drug abuse among medical students of Ogun State University at two points in time. Dissertation, West Africa College of Physicians, Faculty of Psychiatry, 1996.
20. Smart RG, Hughes PH, Johnston LD et al. A methodology for student drug use surveys. Geneva: World Health Organization, 1980.
21. Adelekan ML, Odejide OA. The reliability and validity of the WHO student drug use questionnaire among Nigerian students. Drug Alcohol Dependence 1989;24:245-9.
22. Ndom RJE, Adelekan ML. Psychosocial correlates of substance use among undergraduates in University of Ilorin, Nigeria. East Afr Med J 1996;73:541-7.
23. Akvardar Y, Demiral Y, Ergor A et al. Substance use in a sample of Turkish medical students. Drug Alcohol Dependence 2003; 72: 117-21.
24. Elegbeleye OO, Femi-Pearse D. Incidence and variables contributing to smoking among secondary school students and medical students in Lagos, Nigeria. Br J Prevent Soc Med 1976;30:66-70.
25. Adelekan ML, Ndom RJE, Obayan AO. Monitoring trends in substance use through a repeat cross-sectional survey in a Nigerian university. Drugs: Education, Prevention and Policy 1996;3:239-47.
26. Nevadomsky J. Pattern of self-reported drug use among secondary school students in Bendel State, Nigeria. Bulletin on Narcotics 1981;1:9-19.