VERIFIABLE CPD PAPER

IN BRIEF

- A study comparing alcohol and drug use between dental and law undergraduates.
- Dental students are indulging in high levels of alcohol and drug use similar to other groups of professional students.
- This study suggests a role for professional bodies such as the GDC to be more proactive in the prevention of alcohol and drug abuse amongst students.

A comparison of alcohol and drug use among dental undergraduates and a group of non-medical, professional undergraduates

M. W. Barber[1] and A. Fairclough[2]

Objective To compare the alcohol and drug use of dental and law undergraduates.

Design Anonymous self-report questionnaire.

Subjects and methods All dental undergraduates (n = 263) and a randomly selected group of law undergraduates (n = 180) from the same university were questioned on their use of alcohol, tobacco and illicit drugs.

Results Current tobacco use was reported by 7% of dental students and 19% of law students. Alcohol use was reported by 86% of dental students and 88% of law students, with 44% of dental students and 52% of law students estimating they drank above recommended safe limits (14 units for females, 21 units for men). Binge drinking was reported by 71% of dental students and 75% of law students, with weekly binge drinking reported by 27% and 34% of dental and law students respectively. Cannabis experience was reported by 44% of dental students and 52% of law students, with current use reported by 12% and 25% of dental and law students respectively. A small proportion of dental and law students reported using other class A and B drugs including ecstasy, amphetamines and cocaine.

Conclusions Dental students appear to be indulging in similar levels of alcohol and illicit drug use when compared to students of a different, non-medical faculty. Binge drinking may be more prevalent than previously thought, with potential risks to health, patient safety and professional status.

BACKGROUND

Alcohol and drug use amongst university students is widespread.[1-3] Binge drinking has caused recent widespread concern due to the associated antisocial behaviour and health risks.[4,5] Recent surveys[6,7] of dental students suggest that they are no exception, with excessive use of alcohol and illicit drugs being common. Surveys of medical students have been more prevalent over the last 20 years and give similar cause for concern.[8-15]

The effects of excessive alcohol intake and use of illicit drugs have obvious potential consequences for the careers of dentists. Recent studies have shown that, following graduation, alcohol and drug habits either remain high,[7] or decrease, but remain 'at a level where personal harm is possible'.[16] The new publication by the GDC entitled *Standards for dental professionals*[17] does not specifically refer to use of alcohol and drugs, although 'misuse of drugs or alcohol' is listed as one of their criteria for a 'Fitness to Practise' referral. The previous GDC guidance *Maintaining standards*[18] indicated that 'drunkenness or the misuse of drugs... may lead to a charge of serious professional misconduct'.

The aim of this study was to compare the alcohol and drug use of dental students and another non-medical, professional faculty. This allows a comparison to a group of students who are likely to have similar professional responsibilities and expectations, and may indicate whether there is the cause for concern that previous studies suggest.

SUBJECTS AND METHODS

A survey was conducted at one UK university of all dental undergraduates (n = 263) and undergraduates from another non-medical professional faculty. The law faculty was chosen, as this group of students is likely to have similar high professional expectations when qualified, but does not have any clinical commitments. A randomly selected sample of 180 law students was chosen, with 60 from each of the three undergraduate years (the average number of dental students in each year, rounding up to the nearest 10).

The questionnaire comprised of a double-sided sheet of A4. A closed-style of questioning was used, with the majority of questions being tick-box responses. This increased speed of completion and anonymity, and allowed quantitative statistical analysis to be undertaken. Questions on tobacco, alcohol and illicit drug use were included.

Return of the questionnaire was via an enclosed response box placed in the lobby area of each faculty. The questionnaire was initially piloted on a group of 20 non-dental students and took about two minutes to complete. A number of minor problems in the wording of questions were highlighted, which were corrected and re-checked before distribution.

[1]*University Clinical Teacher in Restorative Dentistry; [2]Senior Clinical Teacher in Restorative Dentistry
*Correspondence to: Mr Mark Barber, Seasons Cottage, Stanton-in-Peak, Nr Matlock, DE4 2LX
Email: m.barber@hotmail.co.uk

Refereed paper
Accepted 16 February 2006
DOI: 10.1038/sj.bdj.4814203
© British Dental Journal 2006; 201: 581–584

Table 1 Cannabis use amongst dental and law students

Course	n	Never	Once or twice	Current user	Past user
Dentistry	218	56%	22%	12%	10%
Law	128	48%	21%	25%	6%

The questionnaire was distributed to all the dental students and selected law students during timetabled lectures. Those students that the attendance register indicated had not been present were contacted via internal mail. The questionnaire was distributed over a two-week period in November of 2001, representing a mid-semester month without any scheduled breaks. It was stressed both before distribution and on the questionnaire itself that the survey was voluntary and anonymity guaranteed. Therefore only academic year, age and gender were recorded. Questions relating to ethnic group and other more specific details were avoided. Only the operator viewed the completed questionnaires. To further increase anonymity the results are reported by course only; no year groups are reported individually. Advice regarding ethical approval was sought, and at the time of the original survey was not required for a study of this nature in the institution in question. However, all appropriate measures were taken, as described, to maximise anonymity.

STATISTICAL ANALYSIS

Statistical analysis was carried out using SPSS for Windows. A variety of non-parametric techniques were used including the Chi-square test, Fisher's exact test and the Man-Whitney test.

RESULTS

The response rate was 218 out of 263 (83%) for the dental students and 128 out of 180 (71%) for the law students. Of the 218 dental students, 46% were male and 54% were female. Of the 128 law students, 41% were male and 59% were female. There was no statistically significant difference in the proportion of males and females between the dental and law students ($p = 0.302$). The mean age of the dental students was 21.4 years and the mean age of the law students was 20.4 years, which was statistically significant ($p < 0.001$).

Tobacco

Current tobacco use was reported by 7% of dental students and 19% of law students, whilst 9% of dental students and 1% of law students reported to have given up. There was a statistically significant difference in tobacco use between the two groups of students ($p < 0.001$). Of the current tobacco users, the majority of dental students (50%) smoked 1-5 cigarettes a day, whereas the majority of law students (33%) smoked 6-10 cigarettes a day. No dental students and only 2% of law students smoked more than 20 cigarettes a day.

Alcohol

Eighty-six per cent of dental students and 88% of law students reported drinking alcohol. Dental students estimated they drank 15.6 units per week (males 21.3 units; females 11.0 units), and law students 18.0 units per week (males 25.0 units; females 13.2 units), which was statistically significant ($p = 0.031$). 'Sensible levels' of alcohol (0-21 units per week for males, 0-14 units per week for women) were exceeded by 30% of dental students (males 33%; females 27%) and 40% of law students (males 48%; females 34%). Three per cent of dental students (males 5.9%; females 0%), and 3% of law students (males 3.8%; females 2.6%) estimated that they drank 'high risk' amounts (>50 units per week for males, >35 units per week for females). See Figure 1.

Seventy-one per cent of dental students (males 69%; females 73%) and 75% of law students (males 71%; females 78%) admitted to binge drinking, with 27% of dental students (males 34%; females 20%) and 34% of law students (males 37%; females 32%) doing so more than once a week. There was no statistically significant difference in the binge drinking activities between the dental and law students ($p = 0.117$). See Figure 2.

Cannabis

Forty four per cent of dental students and 52% of law students admitted to having used cannabis, with 12% of dental students and 25% of law students admitting to current use. There was a statistically significant difference in cannabis use between the two groups of students ($p = 0.009$). The majority of current cannabis users reported using the drug less than once a month, however a greater proportion of law students admitted to using the drug on a monthly or weekly basis. See Table 1.

Ecstasy

Seven per cent of dental students and 7% of law students admitted to having used ecstasy, with current use reported by 4% of dental students and 2% of law students. Amongst the current ecstasy users, the majority reported to use the drug less than once a month, however 1% ($n = 2$) of dental students reported to use the drug more than once a week. There was no statistically significant difference in the use of ecstasy between the two groups of students ($p = 0.268$).

Amphetamines

Seven per cent of dental students and 3% of law students admitted to having used amphetamines, whilst current use was reported by 1% ($n = 2$) of dental students and 0% of law students. The dental students currently using amphetamines used the drug less than once a month. There was no statistically significant difference in the use of amphetamines between the two groups of students ($p = 0.432$).

Other Class A drugs

Six per cent of dental students and 6% of law students admitted to having used other Class A drugs, excluding ecstasy. Current use was reported by 2% ($n = 4$) of dental students and 0% of law students. Of those dental students currently using other Class A drugs, three students reported to use the drugs less than once a month and one student reported weekly use. There was no statistically significant difference in the use of other Class A drugs between the two groups of students ($p = 0.176$).

Other Class B and C drugs

Nine per cent of dental students and 12% of law students admitted to having used other Class B and C drugs, excluding cannabis and amphetamines. Current use was reported by 3% of dental students and 3% of law students. All of the current users, except one dental student, reported to use the drugs less than once a month. There was no statistically significant difference in the use of other Class B and C drugs between the two groups of students ($p = 0.704$).

Associations

Of the current smokers, 45% drank alcohol in the 'at risk' category and 12.5% in the 'high risk' category. The cannabis use amongst current smokers was 82.5% having used it and 45% being current users. Of those drinking alcohol in the 'high risk' category, binge drinking was admitted by 100%. The 'high

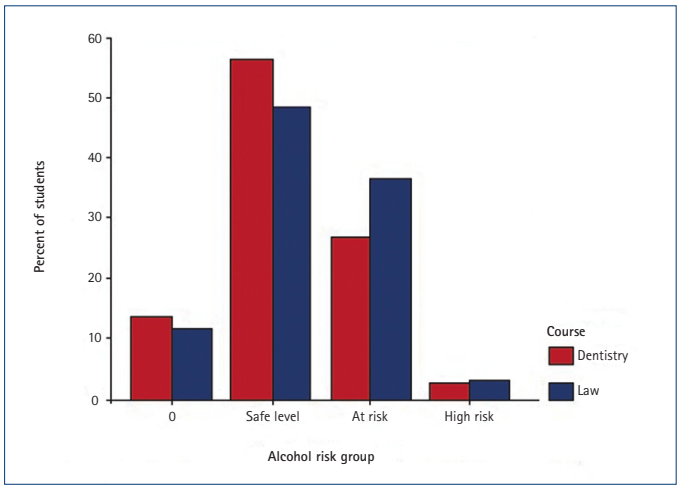

Fig. 1 Risk category of alcohol consumption according to estimated weekly intake amongst dental and law students

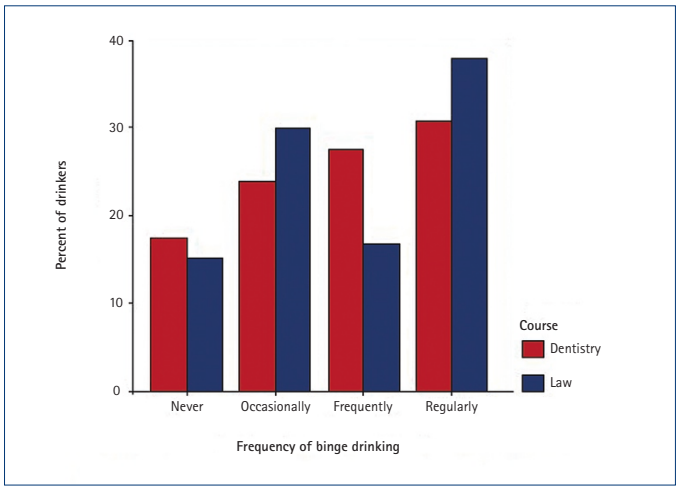

Fig. 2 Frequency of binge drinking amongst dental and law students using alcohol. Occasionally = < once a month, Frequently = > once a month, Regularly = > once a week

risk' drinkers' current drug use was 50% for cannabis, 20% for ecstasy, 20% for amphetamines and 10% for other Class B and C drugs. Of those who admitted to current use of cannabis, 14.8% also currently used ecstasy, 1.8% currently used amphetamines, 3.5% used other Class A drugs and 17.5% used other Class B and C drugs.

DISCUSSION

This study demonstrates current tobacco, alcohol and drug use in a UK dental school and law faculty. The response rate achieved for the dental students was excellent (83%), and for the law students good (71%). The fact that primary distribution was during a lecture would increase possibility of selection bias due to the fact that those indulging in alcohol and drugs could possibly be regular non-attenders. This bias would have been reduced following secondary contact via internal mail. Honesty of those surveyed would play a major role in a study of this nature. Measures were taken to increase honesty as much as possible.

To maximise anonymity, results for year groups were not presented and ethnic background not recorded. There are, however, a large number of ethnic minority students in both the dental and law faculties. This group of students has previously been reported to use alcohol and drugs less than other groups.[1,12] There was discovered to be a significant difference in the average ages of the two groups. This was predicted as the dental course lasts two years longer than the law course.

There was a significant difference in the proportion of dental and law students who currently smoked tobacco (7% and 19% respectively), and who had given up smoking (9% and 1% respectively). This might be related to the medical education of the dental students, making them more aware of the risks and consequences. Comparison to previous studies is difficult as smoking habits were not measured in the same way. The national average of current smoking for this age group (20-24 year olds) is 41% for both males and females.[19] Both groups are well below this level. This is encouraging for the profession, as dentists may have a greater role to play in smoking cessation in the future.

The guidelines regarding alcohol consumption used for this study are those set by the British Medical Association (BMA),[20] which advise sensible weekly limits of 14 units for women and 21 units for men. These guidelines were also adopted in previous studies,[6,7] rather than the more lenient Department of Health guidelines.[21] There is no consensus on a definition for binge drinking.[22] In this study the widely used definition of drinking more than half the recommended weekly limit in one session is used.

Average weekly alcohol consumption was estimated at 15.6 units for dental students and 18.0 units for law students. It has been reported[6] that estimating weekly alcohol intake generates lower figures than asking for total alcohol consumption in the previous week. This may suggest that these results are an underestimate. Even so, 27% of dental students and 37% of law students estimated they drank in the 'at risk' category and 3% of each group were in the 'high risk' category. Although these results are lower than previous studies,[6,7] they are still cause for concern due to the long-term health risks of this level of alcohol use. The lower estimate of weekly intake among dental students may be related to the reduced opportunities for weekday drinking due to clinical commitments.

Eighty-two per cent of dental student drinkers and 85% of law student drinkers reported binge drinking. Twenty-seven per cent and 34% of dental and law students respectively reported to binge drink more than once a week. As suggested in previous studies,[6] dental student binge drinking may be explained by the fact that they may have to limit their alcohol intake to one or two nights a week due to weekday clinical commitments. However, law students do not have clinical commitments, which suggests there may be other reasons for binge drinking. There appears to be little difference in the drinking habits between males and females. Current media coverage would suggest binge drinking is increasingly becoming part of youth culture. These results are significantly higher than previously reported, suggesting binge drinking may be more prevalent than previously thought. The fact that 27% of all dental students binge drink more than once a week is worrying, as the high levels of alcohol consumed during a binge may not be totally eliminated from the body by the following morning. This suggests that some students may be undertaking clinical duties whilst under the influence of alcohol.

The potential consequences of binge drinking are serious, due to the associated health risks and connections to anti-social behaviour.[23] The professional and medical consequences are also serious, with the potential for alcoholism, serious illness and professional disciplinary action.

Cannabis use was reported by 44% of dental students and 52% of law students, with current use reported as 12% and 25% respectively. This is slightly lower than other studies.[6,7] The difference between the two groups of students may be due to the serious legal and ethical consequences of dental students using cannabis, but may also be due to the fact that more law students currently smoke tobacco, as inhaling cannabis by smoking is understood to be the most common way of taking the drug. Even though fewer dental

students are indulging in the use of cannabis when compared to another student group, it is still worrying that high proportions of dental students are using the drug. The effects of cannabis have been shown to last a number of days, and may therefore have an effect during clinical duties. It will be interesting to see if the recent down-grading of cannabis from a Class B drug to a Class C drug has any effect on its use to the student population.

A minority of students admitted to experience and use of other drugs including ecstasy and amphetamines. These results were generally comparable to, or less than previous studies.[1,2,6,7] Four per cent of dental students admitted to being current users of ecstasy, compared to only 1.6% of law students. The consequences of being caught using illegal drugs are extremely serious, both legally, with the potential for imprisonment, and professionally, with the potential for being struck off, or refused admission to the dental register.

Current tobacco smokers were significantly more likely to drink to excess and use cannabis. Of the 'high risk' drinkers, 100% admitted to binge drinking, 50% currently used cannabis and 20% currently used ecstasy. This suggests that the heavy drinkers are also more likely to be using illicit drugs.

Most cases referred to the GDC regarding alcohol and drug misuse are referred to the Health Committee. The reports from these meetings are confidential, but figures for 2005 suggest that there are 15 dentists currently working under conditions set down by the Health Committee and 10 dentists whose registration has been suspended.[24] Around 80% of these are likely to be alcohol and drug related cases. Only one Professional Conduct Committee case has been heard relating to alcohol and drug misuse. This was in May of 2000 when a dentist was found guilty of misusing LSD, cocaine, ecstasy and cannabis having collapsed in the dental surgery. The dentist was found guilty of serious professional misconduct and erased from the dental register. The Dentists Health Support Programme (previously known as the Sick Dentists Scheme) has been helping dentists with alcohol and drug related problems for over 20 years, and receives around 70 enquiries annually.[25]

CONCLUSIONS

The results from this study suggest both alcohol and drug use is extremely prevalent amongst dental and law undergraduates. The law students appear to smoke tobacco and use cannabis more frequently than the dental students do. Binge drinking may be more prevalent than previously thought, with potential risks to health, patient safety and professional status. It appears there is a small 'core' of students who are abusing alcohol and drugs to extremes. This is important, as it is this group of students in particular for whom education on the consequences of drug and alcohol abuse would be most relevant. There may be a role for Higher Education, community and professional bodies such as the GDC to become more proactive in the prevention of drug and alcohol abuse amongst undergraduates. This could, for example, involve organised speakers addressing groups of students in informal seminars to discuss the risks of alcohol and drug abuse. The speakers could include people who have been affected by alcohol and drug abuse, to give students a more personal insight on its effects. It would be interesting to investigate whether such an intervention would reduce levels of alcohol and drug abuse, or whether these habits are going to be more difficult to overcome. Future trends will be interesting to monitor following relaxation of drinking laws and drug classification.

1. Webb E, Ashton H, Kelly P, Kamali F. Alcohol and drug use in UK university students. *Lancet* 1996; **348:** 922-925.
2. Webb E, Ashton H, Kelly P, Kamali F. Patterns of alcohol consumption, smoking and illicit drug use in British university students: interfaculty comparisons. *Drug Alcohol Depen* 1997; **47:** 145-153.
3. West R, Drummond C, Eames K. Alcohol consumption, problem drinking and antisocial behaviour in a sample of college students. *Br J Addict* 1990; **85:** 479-486.
4. *Binge drinking: nature, prevalence and causes.* St Ives: Institute of Alcohol Studies, 2004.
5. Chenet L, Britton A. Weekend binge drinking may be related to Monday peaks in cardiovascular deaths. *Br Med J* 2001; **322:** 988.
6. Underwood B, Fox K. A survey of alcohol and drug use among UK based dental undergraduates. *Br Dent J* 2000; **189:** 314-317.
7. Newbury-Birch D, Lowry R J, Kamali F. The changing patterns of drinking, illicit drug use, stress, anxiety and depression in dental students in a UK dental school: a longitudinal study. *Br Dent J* 2002; **192:** 646-649.
8. Newbury-Birch D, Walshaw D, Kamali F. Drink and drugs: from medical students to doctors. *Drug Alcohol Depen* 2001; **64:** 265-270.
9. Newbury-Birch D, White M, Kamali F. Factors influencing alcohol and illicit dug use amongst medical students. *Drug Alcohol Depen* 2000; **59:** 125-130.
10. Pickard M, Bates L, Dorian M *et al.* Alcohol and drug use in second-year medical students at the University of Leeds. *Med Educ* 2000; **34:** 148-150.
11. Webb E, Ashton C H, Kelly P, Kamali F. An update on British medical students' lifestyles. *Med Educ* 1998; **32:** 325-331.
12. Ashton C H, Kamali F. Personality, lifestyles, alcohol and drug consumption in a sample of British medical students. *Med Educ* 1995; **29:** 187-192.
13. Ghodse A H, Howse K. Substance use of medical students: a nation-wide survey. *Health Trends* 1994; **26:** 85-88.
14. Collier D J, Beales I L P. Drinking among medical students: a questionnaire survey. *Br Med J* 1989; **299:** 19-22.
15. File S, Mabbutt P, Shaffer J. Alcohol consumption and lifestyle in medical students. *J Psychopharmacol* 1994; **8:** 22-26.
16. Underwood B, Fox K, Nixon P J. Alcohol and drug use among vocational dental practitioners. *Br Dent J* 2003; **195:** 265-268.
17. The General Dental Council. *Standards for dental professionals.* London: GDC, 2005.
18. The General Dental Council. *Maintaining standards.* London: GDC, 1997.
19. Health Survey for England 1998: Vol 1: Findings. The health of young people. London: Department of Health, 1998.
20. British Medical Association. *Alcohol: guidelines on sensible drinking.* London: BMA, 1995.
21. Inter-Departmental Working Group. *Sensible drinking.* London: Department of Health, 1995.
22. Moore L, Smith C, Catford J. Binge drinking: prevalence, patterns and policy. *Health Educ Res* 1994; **9:** 497-505.
23. Home Office Standing Conference on Crime Prevention. Report of the Working Group on Young People and Alcohol. London: Crown Office, 1987.
24. GDC Website: www.gdc-uk.org.
25. Telephone correspondence with Joe Mee, Dentists Health Support Programme.