

Knowledge, attitude and practices of alcohol and smoking among undergraduate oral health students at a South African University.

SADJ Feb 2018, Vol 73 no 1 p27

NR. Nkambule,¹ A. Bhayat,² TK. Madiba.³

ABSTRACT

Background: The prevalence of alcohol consumption and smoking among university students is high.

Aim: To determine the knowledge, attitudes and practices of alcohol consumption and smoking among undergraduate oral health students at a South African university.

Methods: A cross-sectional study was conducted among dental and oral hygiene students (n=344) who were registered at a South African University in 2015. A self-administered questionnaire was used to collect information on socio-demographic characteristics, knowledge, attitudes and practices regarding consumption of alcohol and smoking. Data analysis included frequencies and correlations using chi-square tests, at a level of significance of $p < 0.05$.

Results: A total of 269 (78%) students agreed to participate. The mean age was 22 years and 74% were female. More than a third (41%) reported consuming alcohol regularly while 11% reported being current smokers. More males reported indulging in both habits as compared with females.

More than half felt that alcohol was acceptable as a social drink. The majority of clinical students (86%) associated periodontal diseases with smoking compared with pre-clinical students (74%).

Conclusion: The overall knowledge on social and health implications of excessive consumption of alcohol and smoking was adequate. The majority associated alcohol consumption and smoking with social activity.

Keywords: Knowledge, attitude, practices, alcohol and smoking, undergraduate university students

INTRODUCTION

Alcohol consumption and smoking tends to peak between the ages of 18 and 25 years and university students in these age groups are at particular risk for increased alcohol consumption when compared with non-enrolled age-matched controls.¹⁻³ It has been observed that the overall trend of alcohol use increases

ACRONYM

OH : Oral Hygiene

es from high school into university and then plateaus off after graduation.⁴ Alcoholic drinks contain ethanol, commonly known as “alcohol” and includes wines, beers and spirits.⁵ Alcohol consumption has been common for thousands of years and the drinking of alcoholic beverages is frequently a feature of social gatherings globally.

The rate of consumption of alcohol among the general population and heavy episodic drinking of alcohol among young adults are on the rise in many countries.^{6,7} Alcohol use during adolescence and young adulthood remains a prominent public health problem.⁸ Excessive consumption of alcohol has been associated with alcoholism, social vices, esophageal and liver cancer, liver cirrhosis, epilepsy, vehicle accidents and other traumatic outcomes that result in disability and loss of life.⁹ The prevalence of drinking alcohol among South African medical students was as high as 85% while a study in Malawi reported that up to 54% of males consumed alcohol on a regular basis.^{10,11}

Alcohol consumption and tobacco use are strongly-related behaviours, and the association between these two substances has been found to be strengthened with the heavier use of either substance.^{12,13} A study reported that the urge to smoke increases rapidly following heavy drinking, even among light smokers.¹⁴

It appears that smoking as a habit increases from school years into university and that smoking patterns among university students are relatively high.^{15,16} The university years seem to be a time of increased exposure to the risk of starting to smoke and a progression into regular patterns of use.¹⁶ National studies in the U.S. have shown that approximately 30% of university students reported having smoked in the past 30 days and 40% reported having smoked in the past year.¹⁷ University smokers are more likely to be non-daily smokers but smoke more in social situations when compared with their non-university peers.^{18,19}

The prevalence of smoking among South African students varied between 37% and 43% among males in tertiary institutions.²⁰ As regards oral health students, only one similar study, has been carried out, in the Western Cape in 2010. Those authors reported a prevalence of 23%; which was lower than reports in other international studies.⁸

1. NR. Nkambule, *B Dent Ther, BDS, MPH, DHSM*, MChD (Community Dentistry).**

2. A. Bhayat, *BDS, MSc, MPH, M Dent (Community Dentistry).**

3. TK. Madiba, *B.Dent Ther, BDS, DHSM, MChD (Community Dentistry).**

* Department of Community Dentistry, School of Dentistry, University of Pretoria, Pretoria, South Africa

Corresponding Author

Dr NR Nkambule, P O Box 1533.Rosslyn, 0200. Email: zdnkambule@gmail.com
Tel: (012) 319-2447, Cell: 0827725135

No such investigation has been conducted in the dental universities of Gauteng and the current study provides baseline data that can be used for future intervention and surveys. The results should also enable dental schools to assess the knowledge of students on alcohol and smoking and if necessary provide the basis to modify the current teaching module to improve the outcomes.

Oral health graduates are role models in their communities and their social practices will be an example for many professional and lay people with whom they interact. Many habits will have been developed during their formative years as students and it is relevant therefore to determine the knowledge and consumption patterns of smoking and alcohol amongst an undergraduate oral health population.

AIM

The aim was to determine the knowledge, attitudes and practices of alcohol intake and smoking among undergraduate oral health students registered at a South African university in 2015.

METHODS

Ethical approval was obtained from the University of Pretoria, Faculty of Health Sciences Ethics committee (Ref 346/2015) No personal details of the students were disclosed and all information was strictly confidential and anonymous.

A cross-sectional analytical study design was used. There was a total of 298 dental and 46 oral hygiene students (n=344) registered at the School of Dentistry in 2015 and all were invited to participate. A modified and validated, self-administered questionnaire was used to collect information on the socio-demographic characteristics, knowledge, attitude and practices of the students with regards to smoking and consumption of alcohol.^{9,22}

The students' knowledge regarding alcohol and smoking was assessed by asking them to select from a list of health conditions those that they thought may possibly be associated with the consumption of these substances. Knowledge was regarded as adequate with a score of 50% or more.

Attitudes towards the habits were obtained by asking questions related to how the students perceived alcohol served as a social drink and whether the intake can lead to social vices.

The practices of the students regarding alcohol and smoking were determined by asking students to provide their consumption patterns and the frequency of their intake of alcohol and of smoking. Regarding alcohol consumption patterns, students were grouped into; never (no alcohol intake); rarely (once a week) and regular (more than three times a week).

Students were categorized into either clinical or preclinical groups, as has been done in other similar studies.^{8,22} The clinical group included all 3rd, 4th and 5th year dentistry and 2nd and 3rd year oral hygiene (OH) students. The preclinical group included the 1st and 2nd year dental and 1st year OH students. Data analysis was performed using SPSS version 22. Descriptive and analytical statistical tests were done and the level of confidence was set at 95%. The level of significance was set at $p < 0.05$.

RESULTS

The response rate was 78% (n=269) with a mean age of 22 years (17-42; $SD \pm 3.25$). The final sample included 225 (83%) dental and 44 (16%) OH students; 199 (74%) were female and 136 (51%) were preclinical students (Figure 1).

There were 107 (41%) participants who reported their consumption of alcohol as "regular" and almost half of all males (46%) acknowledged as being regular consumers of alcohol. Of those who responded to the question related to the habit of smoking (n=258), a significant number (89%) reported they did not smoke regularly ($p=0.01$). Of the 11% who reported being current smokers, more males (19% of male sample) compared with females (8% of female sample) were smokers (Table I).

Assessment of the knowledge of students regarding the ill effects of alcohol consumption was revealed by a majority (93%) correctly identifying liver disease, while less than half (39%) associated hypertension (46%), diabetes (39%) and cancer (39%) as outcomes of excessive alcohol intake. Significantly more clinical (46%) than pre-clinical (33%) students correctly identified cancer as an outcome of excessive alcohol consumption ($p=0.03$) but there were no significant differences in the levels of knowledge between gender and course of study (Table II).

Regarding attitudes towards alcohol consumption, 63% felt that alcohol was acceptable as a social drink and 70% felt it was acceptable for alcohol to be consumed when entertaining friends. However, it must be noted that almost half of the sample (47%) recognized the harm associated with excessive alcohol consumption.

When considering the attitude towards smoking, the majority of the participants (92%) felt that professionals have a role in giving advice to patients about cessation of any tobacco products, should routinely advise patients who smoke (89%); and should seek training on controlling tobacco use (84%). Of the five health conditions that participants could identify as associated with smoking, more clinical students (86%) associated periodontal diseases with smoking compared with the pre-clinical (74%) group ($p=0.01$). There were no significant differences between the genders or the course of study in relation to their knowledge regarding smoking (Table III).

DISCUSSION

The response rate for this study was 78% and this could be due to the delivering and collecting of the questionnaires during lectures as attendance is compulsory. Most of the students agreed to participate and completed the questionnaire.

The overall prevalence of smoking in the sample was 11% and this was a proportion similar to that reported in other studies in which the frequency varied between 3% and 13%.^{21,23-25} However, the figure was much lower compared with the Western Cape study which reported a prevalence of 23%. That survey was conducted more than five years ago and since then South Africa has implemented and extended its anti-tobacco legislation and policies throughout the country, probably resulting in the reduced prevalence.²⁶ The relatively superior knowledge level associated with smoking seen in SA could be due to the inception of that legislation and the campaigns which have been implemented being robust and effective. In addition, health professionals are used as advocates in the prevention of smoking. The dental team is involved in efforts to reduce smoking, and the profession plays a critical role in tobacco control, ongoing treatment, counselling and prevention. This study is the only paper which has reported that students linked smoking with periodontal diseases. The majority of previous studies recorded student opinion as linking smoking with lung cancer and heart diseases. This may be due to the fact that the current study was conducted amongst oral health students, whilst most other reviewed studies have been conducted amongst medical students.^{20,27,28}

There were no significant differences between the genders, nor

between the courses of study (dentistry and oral hygiene) in relation to knowledge regarding smoking.

The widespread use of alcohol and the emphasis of education regarding the harms of excessive alcohol consumption may have led to the very high level of knowledge regarding the damaging effects on the liver. However, knowledge is inadequate with regards to hypertension, diabetes and especially cancer, which is a concern, although the results are similar to those found in other studies.^{21,29}

Regarding the attitude towards alcohol consumption, 63% (dental) and 70% (oral hygiene) felt that alcohol was acceptable as a social drink and for entertaining with friends. This was considerably higher than the Nigerian study which reported that only 20% serve alcohol to friends as a social drink.²¹ This difference could be due to cultural and religious beliefs.

Alcohol intake is known to be the world's third largest risk factor for the burden of disease.³⁰ Excessive alcohol intake is known to be common among adolescents and young adults which is associated with intoxication and many negative social and health consequences including violence, child neglect and abuse, absenteeism from workplace and chronic diseases.³¹ This suggests that there is a need for intensive campaigns against alcohol use for this group of young individuals.

CONCLUSION

The overall knowledge of undergraduate students on social and health implications of excessive consumption of alcohol and smoking was adequate although it was lacking on alcohol with regards to certain diseases. The majority associated smoking and alcohol consumption with social activities. Alcohol and smoking practices were similar to other studies.

RECOMMENDATIONS

More emphasis on the ill effects of alcohol and smoking should be included in the curriculum to help improve students' knowledge. Students should be allowed to visit oncology wards during their outreach visits to make them aware of the ill effects of alcohol and smoking as risk factors in the development of cancer.

Outreach activities should be used to allow students to deliver anti-smoking, drug and alcohol messages to learners at primary and high school settings to reinforce their own knowledge and to discuss the ill effects of smoking and alcohol with learners.

ACKNOWLEDGEMENTS

The authors would like to thank all the students for participating in this study and the management of the University for granting permission to conduct the study.

Declaration: No conflict of interest was declared.

References

- Dawson DA, Grant BF, Stinson FS, Chou PS. Another look at heavy episodic drinking and alcohol use disorders among college and non-college youth. *Journal of Studies on Alcohol and Drugs*. 2004;65(4):477.
- Karam E, Kypri K, Salamoun M. Alcohol use among college students: an international perspective. *Current Opinion in Psychiatry*. 2007;20(3):213-21.
- Melchior M, Chastang J-F, Goldberg P, Fombonne E. High prevalence rates of tobacco, alcohol and drug use in adolescents and young adults in France: results from the GAZEL Youth study. *Addict Behav*. 2008;33(1):122-33.
- Bewick BM, Mulhern B, Barkham M, Trusler K, Hill AJ, Stiles WB. Changes in undergraduate student alcohol consumption as they progress through university. *BMC Public Health*. 2008;8(1):163-70.
- Malik VS, Schulze MB, Hu FB. Intake of sugar-sweetened beverages and weight gain: a systematic review. *The American Journal of Clinical Nutrition*. 2006;84(2):274-88.
- 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. *The Lancet*. 2009;373(9682):2223-33.
- Consumption WECOPRtA. WHO Expert Committee on Problems Related to Alcohol Consumption. Second report. World Health Organ Tech Rep Ser. 2007(944):1.
- Gordon N, Rayner C. Smoking practices of dental and oral health students at the University of the Western Cape. *South African Dental Journal*. 2010;65(7):304-8.
- Wang YC, Bleich SN, Gortmaker SL. Increasing caloric contribution from sugar-sweetened beverages and 100% fruit juices among US children and adolescents, 1988-2004. *Pediatrics*. 2008;121(6):e1604-e14.
- Marais A, Calitz F, Rataemane L, Joubert G. Alcohol use among sixth-year medical students at the University of the Free State. *South African Journal of Psychiatry*. 2002;8(3):6.
- Zverev Y. Problem drinking among university students in Malawi. *Coll Antropol*. 2008;32(1):27-31.
- McKee SA, Hinson R, Rounsaville D, Petrelli P. Survey of subjective effects of smoking while drinking among college students. *Nicotine & Tobacco Research*. 2004;6(1):111-7.
- Bobo JK, Husten C. Sociocultural influences on smoking and drinking. *Alcohol Research and Health*. 2000;24(4):225-32.
- King AC, Epstein AM. Alcohol dose-dependent increases in smoking urge in light smokers. *Alcoholism: Clinical and Experimental Research*. 2005;29(4):547-52.
- Green MP, McCausland KL, Xiao H, Duke JC, Vallone DM, Heaton CG. A closer look at smoking among young adults: where tobacco control should focus its attention. *Am J Public Health*. 2007;97(8):1427-33.
- Bachman JG, Wadsworth KN, O'Malley PM, Johnston LD, Schulenberg JE. Smoking, drinking, and drug use in young adulthood: The impacts of new freedoms and new responsibilities. Psychology Press; 2013.
- Rigotti NA, Lee JE, Wechsler H. US college students' use of tobacco products: results of a national survey. *JAMA*. 2000;284(6):699-705.
- Nichter M, Nichter M, Carkoglu A, Lloyd-Richardson E, Network TER. Smoking and drinking among college students: "It's a package deal". *Drug Alcohol Depend*. 2010;106(1):16-20.
- Harrison EL, Desai RA, McKee SA. Nondaily smoking and alcohol use, hazardous drinking, and alcohol diagnoses among young adults: findings from the NESARC. *Alcoholism: Clinical and Experimental Research*. 2008;32(12):2081-7.
- Awotedu A, Jordaan E, Ndukwana O, Fipaza N, Awotedu K, Martinez J, et al. The smoking habits, attitudes towards smoking and knowledge regarding anti-smoking legislation of students in institutions of higher learning in the Eastern Cape Province of South Africa. *South African Family Practice*. 2006;48(9):14-20.
- Fadupin G, Ogunkunle M, Gabriel O. Knowledge, Attitude and consumption pattern of alcoholic and sugar-sweetened beverages among undergraduates in a Nigerian institution. *African Journal of Biomedical Research*. 2014;17(2):75-82.
- Khan N, Hussain M, Khalid MM, Siddiqui SH, Merchant AA. Effect of institute and educational level on knowledge, attitude and practice regarding Hepatitis B and C and vaccination of Hepatitis B among medical students of Karachi, Pakistan. *Journal of Dow University of Health Sciences*. 2013;7(1):3-9.
- Rikard-Bell G, Groenlund C, Ward J. Australian dental students' views about smoking cessation counseling and their skills as counselors. *J Public Health Dent*. 2003;63(3):200-6.
- Andrade APAd, Bernardo ACC, Viegas CAdA, Ferreira DBL, Gomes

TC, Sales MR. Prevalence and characteristics of smoking among youth attending the University of Brasília in Brazil. *Jornal Brasileiro de Pneumologia*. 2006;32(1):23-8.

25. Smith DR, Leggat PA. An international review of tobacco smoking among dental students in 19 countries. *Int Dent J*. 2007;57(6):452-8.

26. Eriksen MP, Cerak RL. The diffusion and impact of clean indoor air laws. *Annu Rev Public Health*. 2008;29:171-85.

27. Al-Haqwi AI, Tamim H, Asery A. Knowledge, attitude and practice of tobacco smoking by medical students in Riyadh, Saudi Arabia. *Ann Thorac Med*. 2010;5(3):145-8.

28. Peltzer K. Tobacco use among black South African university students: attitudes, risk awareness and health locus of control. *Curatiosis*. 2001;24(2):4-8.

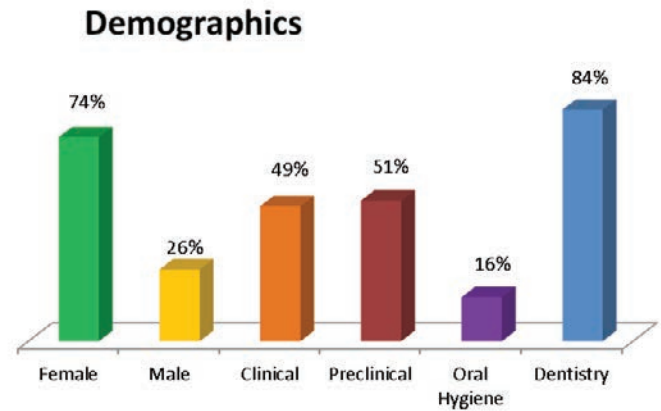
29. Raychowdhury S, Lohrmann DK. Oral cancer risk behaviors among Indiana college students: a formative research study. *J Am Coll Health*. 2008;57(3):373-8.

30. Duffey KJ, Popkin BM. Shifts in patterns and consumption of beverages between 1965 and 2002. *Obesity*. 2007;15(11):2739-47.

31. World Health Organization. Global status report on alcohol and health:

World Health Organization; 2014.

Figure 1: Demographic status of the student sample (n= 269)



	Male (%)	Female (%)	Total (%)	p-value
Prevalence of alcohol consumption (n=264)				
Never consumed alcohol	19 (27)	49 (25)	68 (26)	0.08
Rarely consumed alcohol	19 (27)	70 (36)	89 (34)	
Regularly consumed alcohol	32 (46)	75 (39)	107 (41)	
Prevalence of smoking (n=258)				
Current smokers	13 (19)	16 (8)	29 (11)	0.01
Non-smokers	54 (81)	175 (92)	229 (89)	

(n= 269)	Liver disease (%)	p-value	Hypertension (%)	p-value	Diabetes (%)	p-value	Cancer (%)	p-value
Male	66 (93)	0.99	34 (48)	0.78	25 (35)	0.49	27 (38)	0.78
Female	184 (93)		91 (46)		79 (40)		79 (40)	
Preclinical	124 (91)	0.25	63 (46)	0.96	48 (35)	0.25	45 (33)	0.03*
Clinical	126 (95)		62 (47)		56 (42)		61 (46)	
Oral Hygiene	39 (89)	0.22	17 (39)	0.25	12 (27)	0.09	12 (27)	0.72
Dentistry	211 (94)		108 (48)		92 (42)		94 (42)	
Total	250 (93)		125 (46)		104 (39)		106 (9)	

*Statistically significant using Chi-Square test

	Periodontal disease	p-value	Hypertension	p-value	Lung disease	p-value	Cancer	p-value
Male	53 (75%)	0.17	21 (50%)	0.52	64 (87%)	0.28	45 (64%)	0.11
Female	157 (83%)		102 (46%)		175 (92%)		142 (74%)	
Preclinical	98 (74%)	0.01*	60 (45%)	0.96	123 (93%)	0.12	97 (73%)	0.51
Clinical	112 (86%)		63 (48%)		113 (88%)		90 (70%)	
Oral Hygiene	36 (86%)	0.32	21 (50%)	0.25	38 (90%)	0.99	33 (79%)	0.28
Dentistry	174 (79%)		102 (46%)		198 (90%)		154 (70%)	
Total	210 (78%)		123 (46%)		239 (89%)		187 (69%)	

*Statistically significant using Chi-Square test