The Perceptions and Habits of Alcohol Consumption and Smoking Among Canadian Medical Students

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Objective: The authors aim to quantify the extent, and to assess student perception, of alcohol and tobacco use among medical students at the University of Calgary, and the relationship of these attitudes to problem drinking (according to the CAGE questionnaire).

Methods: A questionnaire was distributed to first-, second-, and third-year medical students attending the University of Calgary medical school.

Results: Of the 327 students enrolled, 175 of students responded to the questionnaire. Six percent of the students currently smoke while 24% of students reported cigarette smoking at some point in their life. Eighty-six percent of students currently drink, with a majority drinking fewer than 11 drinks per week. Fifteen percent of students were at an increased risk for problem drinking according to the CAGE questionnaire. An increased risk for problem drinking was significantly related to believing more strongly that getting drunk is acceptable on occasion and less strongly that increased alcohol has many negative health consequences, as well as feeling less in control of alcohol consumption.

Conclusion: Medical students at the University of Calgary consume less alcohol and cigarettes than a comparable population. However, a high proportion of students are at risk for alcohol abuse according to the CAGE questionnaire. The results of this study suggest that although the quantity of alcohol consumed is not a substantial concern at this time, students might be at risk for future alcohol abuse.

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Alcohol and tobacco use is a growing concern all throughout the world. Twenty-two percent of Canadians and 14%–27% of the British population exceed the recommended guidelines (1, 2). Current statistics reveal that 21% of Canadians, 20% of Americans, and 26% of the British population ages 16 and over currently smoke (2–4).

The literature is clear regarding the harmful effects of smoking and excessive alcohol consumption. Excessive alcohol consumption has many physiological, social, and mental consequences, including impaired vision and motor coordination, elevated blood pressure and heart rate, risk of stroke and heart failure, introversion, and antisocial behavior (5). The current Canadian guidelines for “low-risk drinking” suggest that women and men drink no more than 9 to 14 standard drinks per week, respectively, and no more than two standard drinks per day (1). Smoking also has many physiological consequences, including cancer, emphysema, organ damage, and heart disease (6).

Despite the recent publicity regarding the harmful effects of alcohol and smoking, the largest proportion of smokers and drinkers is represented by adults between 20 and 24 years old (3, 4). The primary reasons cited for drinking in this age group are pleasure and social pressure. Medical students have been reported to consume alcohol and tobacco at levels exceeding the recommended guidelines (7–12). These results are surprising because medical
students are supposedly more educated on the harmful effects of smoking and excessive alcohol consumption.

The purpose of this study was to quantify the extent of alcohol consumption and cigarette smoking in Canadian medical students and to assess their knowledge and attitudes toward these behaviors. Specifically, this questionnaire of first-, second-, and third-year medical students at the University of Calgary explored the prevalence of problem drinking (according to the CAGE questionnaire), the prevalence of tobacco consumption, and the relationship between perceptions of alcohol and tobacco use and the risk of problem drinking.

**Methods**

A questionnaire was handed out at lectures to both the first- and second-year medical students. Because the third-year students were in their clinical training year, questionnaires were placed in their mailboxes. An e-mail was also sent to all medical students informing them about the study and where they could obtain copies of the questionnaire in case they had not attended the lecture or to inform them that the questionnaires had been placed in their mailboxes. The questionnaire was anonymous, confidential, and approved by the University of Calgary Conjoint Health Research Ethics Board.

**Questionnaire**

The questionnaire used in this study was similar to that used in previous studies of medical students in Britain, Turkey, and the United States (9–11).

With regards to alcohol consumption, participants were asked about the prevalence of drinking (yes or no), the age at which they started drinking, the frequency with which they consumed any amount of alcohol, the frequency with which they consumed more than five drinks in a single sitting, the amount of alcohol consumed over 1 week, the average number of drinks consumed in a single sitting, their reasons for drinking, and whether they experienced any negative consequences of drinking. Students who were at an increased risk of problem drinking were identified by a score of 2 or greater on the CAGE questionnaire (13).

With regards to cigarette smoking, participants were asked about their current and lifetime use of cigarettes (yes or no), the number of cigarettes smoked per day, the number of years they have smoked, and their reasons for smoking.

In addition to quantifying the extent of alcohol use and cigarette consumption, the students’ perceptions of these behaviors were assessed using the agreement or disagreement with the following statements on a 5-point Likert scale (1=strongly agree, 3=neutral, 5=strongly disagree):

- Getting drunk is acceptable on occasion
- Medical students should drink less than other students
- Moderate alcohol consumption (women ≤10 drinks/week; men ≤14 drinks/week) has cardiovascular benefit
- Increased alcohol consumption (binge drinking ≥5 drinks/sitting; women ≥10 drinks/week; men ≥14 drinks/week) has many negative health consequences
- Any amount of cigarette smoking has many negative health consequences
- I feel in control of my alcohol consumption
- I feel in control of my cigarette consumption
- I look negatively upon my peers who consume alcohol
- I look negatively upon my peers who smoke cigarettes
- Despite advocating against excessive alcohol consumption and cigarette smoking as a physician to your patients, do you foresee yourself engaging in such behaviors?

**Statistical Analysis**

Demographic characteristics were compared between smokers and nonsmokers, and between those students who were and were not at risk for problem drinking (score ≥2 on the CAGE questionnaire) using chi-square tests or independent samples t tests, as appropriate. Similarly, smoking status was also compared between the two alcohol consumption groups using chi-square tests.

Given the significant negative impact of problem drinking both within the general community and among college students, the predictors of problem drinking were explored. Independent samples t tests were first used to compare mean scores on the perceptions questionnaire items among those students who were and were not at risk for problem drinking according to the CAGE questionnaire. Gender, smoking status, and those perceptions significantly related to the risk for problem drinking were then entered into a backward logistic regression model in order to determine the independent correlates of an increased risk for problem drinking. All variables were entered in a single step, and the variable that contributed least significantly to the model was removed until only significant variables remained.