

Research letter

Drinking, cannabis use and driving among Ontario students

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Abstract

LITTLE IS KNOWN ABOUT THE RISK OF INJURY among adolescents who drive after the use of alcohol or cannabis or ride in cars driven by drunk drivers. We examined data from self-administered interviews with 1846 students in grades 7 to 13 who participated in the 2001 Ontario Student Drug Use Survey about their experiences related to alcohol, cannabis and driving during the 12 months preceding the survey. In all, 31.9% of the students reported being a passenger in a car driven by a drunk driver; of the students in grades 10 to 13 who had a driver's licence, 15.1% reported driving within an hour after consuming 2 or more drinks, and 19.7% reported driving within an hour after using cannabis. Our study shows that a sizeable proportion of adolescents are exposed to alcohol- and drug-related driving risks.

CMAJ 2003;168(5):565-6

Alcohol-related motor vehicle collisions are a major source of injury among adolescents.¹⁻⁵ Efforts to reduce the prevalence of drunk driving have been undertaken, with some success.⁵⁻⁹ Specific initiatives in Ontario have included the introduction of a zero blood alcohol content (BAC) requirement as part of the province's Graduated Licensing System. Introduced in 1994, this system applies restrictions to all new drivers in the first 2 years of licensing. In addition to the BAC restriction, new drivers are also limited in the conditions under which they can drive. Other recent initiatives have included the introduction in 1996 of the Administrative Driver's Licence Suspension Program, which allows police to immediately suspend a driver's licence for 90 days if he or she has a BAC over the legal limit or refuses a breath test, and the requirement that all people convicted of drunk driving complete a remedial program before they are eligible for relicensing following the period of mandatory licence suspension.

Although some research has monitored the prevalence of drinking and driving among adolescents, which is now about 15%,^{6,9} little is known about the risk of injury associated with driving after the use of drugs such as cannabis or with secondary exposure such as being a passenger in a car driven by a drunk driver. These 2 issues are of concern given that US data suggest about one-third of adolescents have ridden with a driver who had been drinking¹⁰⁻¹³ and that about 9% of On-

tario drivers aged 18-19 years reported driving after cannabis use.¹⁴ We present here data on these indicators from a representative sample of Ontario students who participated in the Ontario Student Drug Use Survey (OSDUS).

The OSDUS is funded by the Centre for Addiction and Mental Health, Toronto, and has been conducted every 2 years since 1977. We analyzed data from the 2001 survey. The survey used a 2-stage cluster design (school, class) and included 4211 students in grades 7 to 13 from 41 school boards and 106 schools (43 elementary, 63 secondary). The student cooperation rate was 71%. This study was approved by the joint Research Ethics Board of the Centre for Addiction and Mental Health and the University of Toronto.

To maximize questionnaire coverage, the OSDUS uses random half samples for selected questionnaire items. Our estimates are based on 3 samples: passenger involvement was determined from the responses of 1846 students in a random half sample of all students; drunk-driving involvement was determined from the responses of 1119 students in grades 10 to 13 from the full sample who had a driver's licence; and cannabis involvement was derived from the responses of 508 students in a half sample of drivers in grades 10 to 13.

Self-administered questionnaires were administered by staff of the Institute for Social Research, York University, in a classroom setting. The students were asked 3 questions: "How often in the last 12 months did you ride in a car or other vehicle driven by someone who had been drinking alcohol?"; "How often in the last 12 months have you driven within an hour of drinking 2 or more drinks of alcohol?"; and "How often in the last 12 months have you driven within an hour of using marijuana or hashish?" For analysis purposes, responses were binary coded indicating involvement at least once during the 12 months before the survey. Further details regarding the study are available from the authors.⁶ All estimates were weighted, and variance and statistical tests were corrected for the complex sample design.

Our findings are summarized in Table 1. In all, 31.9% of the students reported being a passenger in a car driven by someone who had been drinking. Passenger involvement was unrelated to sex but did differ significantly by grade. Of the students in grades 10 to 13 who had a driver's licence, 15.1% reported driving within an hour after consuming 2 or more drinks; the proportion varied significantly by sex

Table 1: Proportion of Ontario students in grades 7 to 13 who reported riding in a car driven by someone who had been drinking, driving after drinking and driving after cannabis use in the year before being surveyed, 2001

Characteristic	Behaviour; % of students*		
	Rode in car driven by someone who had been drinking	Drove after having 2 or more drinks†	Drove after using cannabis‡
Sex	NS	‡	§
Male	32.6 (889)	20.0 (608)	24.5 (270)
Female	31.2 (957)	8.9 (511)	13.7 (238)
Grade	‡	§	NS
7	17.5 (310)	—	—
8	23.2 (291)	—	—
9	31.5 (316)	—	—
10	36.0 (363)	9.8 (154)	18.9 (72)
11	40.0 (255)	10.7 (374)	18.9 (174)
12	36.2 (182)	20.9 (319)	21.6 (151)
13	43.4 (129)	18.2 (272)	19.0 (111)
All	31.9 (1846)	15.1 (1119)	19.7 (508)

Note: NS = not significant.

*Numbers in parentheses are the subgroup totals on which the percentages are based.

†Among students in grades 10 to 13 who had a driver's licence.

‡ $p < 0.001$.

§ $p < 0.05$.

and grade. Of the half sample of drivers, 19.7% reported driving within an hour after using cannabis; the rates varied significantly by sex only.

Our study has limitations, the main one being that the data were self-reported and may have been subject to non-response bias. However, this source of bias would most likely serve to underestimate true behaviour.

Three of our findings have important public health implications that require further research and monitoring. First, the 15% of students with a driver's licence who reported driving after drinking is excessive, particularly since almost all were under the legal drinking age, and most had a graduated licence, for which the legal BAC limit is zero. Second, that nearly one-third of the students reported having ridden in a car driven by someone who had been drinking — an exposure associated with the largest risk factor for the leading cause of death among adolescents¹ — is of great concern. Third, driving after cannabis use is a risk behaviour that may be of similar magnitude to driving after drinking.¹⁵ Although there are no earlier data to evaluate trends, the potential exposure may be substantial since a sizeable proportion of adolescent students are drivers (30%) and have used cannabis (30%).⁶

This article has been peer reviewed.

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Competing interests: None declared.

Contributors: Dr. Adlaf and Ms. Paglia were involved in the study design, data acquisition, analysis and interpretation, and manuscript preparation. Dr. Mann was involved in the data analysis and interpretation and the manuscript preparation. All authors approved the final version of the article.

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