Sources of Cigarettes for High School Students in Two Ontario Counties: Implications for Developing a Community Response

Christine M. Post, MA,¹ Amy J. Bell, MPA, MA,² Christine A. Finlan, BScN¹

It has been well documented that Canadian youth continue to obtain cigarettes from a variety of retail sources,¹⁻⁴ and some Canadian studies have attempted to determine the importance of other sources of supply such as friends, parents or siblings.⁵⁻⁸ Additional reports from Canada and the United States have gone a step further to try to identify factors which may influence the extent to which different groups of students participate in exchanges of cigarettes outside of retail stores.⁹⁻¹⁸

The purpose of this study was to collect more complete information about where high school students in two Ontario counties obtained their cigarettes, particularly through non-retail sources of supply. Variables of interest included age, sex, academic level and smoking behaviour (measured in terms of number of cigarettes smoked). The information was collected in order to provide initial direction for a community health promotion strategy to address the issue of supplying cigarettes to minors.

METHOD

A survey instrument was developed which assessed student smoking behaviours, where and how they were getting their cigarettes, their knowledge of Ontario tobacco laws, and their attitudes and values with respect to the supply of cigarettes to minors. Health Unit staff administered the survey in May 1998, to a sample of students representative

of the various academic levels of Grade 10 and 12 courses in all 14 high schools in Peterborough and Northumberland Counties. Because some students were taking courses outside of their registered grade level, a distribution of students resulted ranging from Grade 9 to Grade 13. Surveys were anonymous and took approximately 15 minutes to complete.

RESULTS

Smoking behaviours

A total of 1,653 students completed the survey. Over one quarter (28%) of the students surveyed were regular smokers. Students registered in junior grades (9-11) had a lower percentage of regular smokers (24%) than students in senior grades (33%) ($p<0.001$). Smoking behaviours varied significantly based on the academic stream of students. Only 16% of Advanced students were regular smokers, as compared to 47% of General and Basic students ($p<0.001$).

Sources of cigarettes

When asked "How do you get your cigarettes?", students identified many different sources. Of the 45% of the sample who indicated that they obtain cigarettes: 54% get them from friends; 45% buy them from a store; 45% ask someone to buy them for them; 25% get them from home; and 15% buy them from other people.

In response to the question "Over the last month, where did you get your cigarettes?", a close look at non-retail sources of supply revealed that students get their cigarettes from: friends and acquaintances over 19 (23% often, 23% sometimes); friends and acquaintances under 19 (23% often, 22% sometimes); adults they know other than

their parents (13% often, 13% sometimes); parents (14% often, 8% sometimes); brothers (9% often, 6% sometimes); teenagers they don't know (6% often, 6% sometimes); sisters (4% often, 6% sometimes); and adults they don't know (3% often, 4% sometimes).

Table I illustrates variations by age, sex and smoking status in how students obtained their most recent cigarette. More boys reported that they obtained cigarettes from a store, while more girls reported that friends gave them cigarettes. Older students were more likely to buy cigarettes, while younger students were more likely to get cigarettes from friends, purchase through intermediaries and use other non-retail sources. Regular smokers were more likely to use stores, ask an intermediary to purchase for them, or get cigarettes from home. Less regular smokers made the greatest use of friends. Results from other survey questions asking how students "most often" got their cigarettes and where they got their cigarettes "in the last month" were consistent with the results observed in Table I. It should be noted that the analysis examines whether individual student characteristics were associated with the means by which students obtained cigarettes. Associations do not simultaneously control for possible interrelationships between the predictive variables.

Additional questions revealed that regular smokers (75%) provided cigarettes to other people significantly more often than moderate (16%) or low level smokers (3%) ($p<0.001$). In order of importance, cigarettes were provided to friends their own age, older friends, younger friends, brothers, strangers, and sisters. As well, almost all (93%) of regular smokers had given someone money to buy cigarettes. When asked, "Who usually buys cigarettes for you?", smokers respond-

1. Peterborough County-City Health Unit

2. Haliburton, Kawartha, Pine Ridge Health Unit

Correspondence and reprint requests: Christine Post, Peterborough County-City Health Unit, 10 Hospital Drive, Peterborough, ON, K9J 8M1, Tel: 705-743-1000, Fax: 705-743-2897, E-mail: cpost@pcchu.peterborough.on.ca

ed: teens over 19 years of age (45%), teens under 19 years of age (18%), parents (15%), adults they know (6%), strangers (6%), a brother (6%) or a sister (4%).

Knowledge of tobacco laws

A large majority of students (84%) knew that the legal age to purchase cigarettes was 19 years of age. Over one quarter (28%) of students, however, thought that it was legal for adults to give cigarettes to kids, and even more (38%) thought that it was legal for a teenager to give cigarettes to other teenagers. Among regular smokers these misconceptions were even greater.

DISCUSSION

Survey results suggest that young people make active use of a wide variety of methods for obtaining cigarettes. These include purchasing cigarettes directly from stores, requesting intermediaries to purchase from stores on their behalf, purchasing from individuals, being given cigarettes freely from friends, and getting them at home. Different patterns of supply emerge depending on the sex and age of the student, and the degree to which they are regular smokers. Patterns are largely consistent with those identified in earlier studies.⁹⁻¹⁸

For the purposes of developing a community strategy for reducing the supply of cigarettes to minors, several key findings are important. First, the retail sector continues to be an important source of supply, even for younger students. Reducing the sale of cigarettes directly to minors must continue to be a high priority.

Second, friends, particularly regular smokers, are a major source of cigarette supply for students, especially for younger and less experienced smokers, and girls, all of whom make less use of retail sources of supply. Messages must reach regular teenage smokers, in a manner which appeals to General and Basic students, and attempt to influence their attitudes and behaviours related to distributing cigarettes.

Third, almost all smokers, at least occasionally, ask someone else to buy cigarettes for them, most commonly an older teen they know. Unfamiliar adults and teens, by comparison, are relatively small sources of supply. Point-of-purchase initiatives would be

TABLE I
How Students Got Their Most Recent Cigarette

	Sex		Grade		Lifetime Smoking†		
	F n=403 %	M n=417 %	9-11 n=501 %	12-13 n=320 %	Low n=100 %	Med n=230 %	High n=491 %
I bought it at a store	16.4	29.7***	14.2	37.3***	4.0	8.7	33.8***
I bought it from someone	2.2	3.1	3.4	1.6	3.0	0.9	3.5
I asked someone to buy it for me	12.2	11.3	13.4	9.3	2.0	5.7	16.7***
A friend gave it to me	54.3	45.1**	53.9	42.6**	79.0	76.1	31.0***
I got it from home	10.7	7.0	10.4	6.2*	4.0	3.9	12.0***
Other	3.5	1.9	2.6	2.8	6.0	3.0	1.8
Missing	0.7	1.9	2.2	0.3	2.0	1.7	1.2

*** p<0.001, ** p<0.01, * p<0.05

† Low = few puffs through 2-3 cigs., Med. = 3-100 cigs., High = >100 cigs., some in last month

worthwhile, and should address the supply of cigarettes to people who are known, as opposed to strangers.

Finally, the study results indicate the need to improve community knowledge of the Ontario Tobacco Control Act which makes it illegal to supply tobacco to anyone under 19.¹⁹ The fact that it applies equally to adults, teenagers and parents also needs to be reinforced.

Limitations to this survey include self-reporting on smoking behaviours, clustering in classes as a result of school-based sampling, and cross-sectional as opposed to longitudinal sampling for various grade categories.

ACKNOWLEDGEMENTS

This study was funded, in part, by a grant from the Ontario Ministry of Health. Thanks to William Pickett, Brian Laundry, Steve Manske and Stephen Brown for assistance with questionnaire design and data analysis.

REFERENCES

1. Health Canada. 1994 Youth Smoking Survey. Ottawa: Ministry of Supply and Services Canada, 1996.
2. Adlaf E, Ivis F, Smart R. The Ontario Student Drug Use Survey 1977 - 1997. Toronto: Addiction Research Foundation, 1997.
3. Brown KS, Taylor TE, Madill CL, Cameron R. The Relationship Between the Tobacco Tax Decrease and Smoking Among Youth: Results of a Survey in South-Western Ontario. Toronto: Ontario Tobacco Research Unit, Working Paper Series #14, 1996.
4. Nielsen AC. Measurement of retailer compliance with respect to the Tobacco Act & Provincial Sales-to-Minors legislation. Report prepared for Health Canada's Health Protection Branch, Office of Tobacco Control. Toronto: AC Nielsen, 1997.
5. Manske SR, Brown KS, Cameron AJR. School-based cancer control: A research agenda. *Cancer Prevention and Control* 1997;1(3):196-212.

6. Freeman A, Mills T, Purcell J, Taylor M. Students and Tobacco. The 1990 Nova Scotia Council on Smoking and Health Survey: Final Report. Nova Scotia Council on Smoking and Health, 1991.
7. Canadian Cancer Society. Youth Survey on Knowledge and Attitudes Concerning Tobacco: Questionnaire. New Brunswick: Canadian Cancer Society, 1996.
8. New Brunswick Lung Association. 1995 Saint John Youth Smoking Survey. Fredericton: New Brunswick Lung Association, 1996.
9. Stanwick RS, Fish DG, Manfreda J, et al. Where Manitoba children obtain their cigarettes. *CMAJ* 1987;137:405-8.
10. Sorensen M, Krahn H. Teenage Smoking Behaviour and Attitudes in Edmonton and St. Albert, 1994. Capital Health Authority, Public Health Services, 1995.
11. Consumer Research Services Inc. Social Marketing Research Study on Non-smoking. Prepared for: Health and Welfare Canada, New Brunswick Department of Health and Community Services, and Saskatchewan Department of Health, 1987.
12. Nova Scotia Council on Smoking and Health. Students and Tobacco 1990. Halifax: Nova Scotia Council on Smoking and Health, 1991.
13. Cummings KM, Sciandra E, Pechacek T, Orlandi M. Where teenagers get their cigarettes: A survey of the purchasing habits of 13-16 year olds in 12 US communities. *Tobacco Control* 1992;1(4):264-67.
14. Forster JL, Wolf M, Murray DM. Perceived and measured availability of tobacco to youths in 14 Minnesota communities: The TPOP study. *Am J Prev Med* 1997;13(3):167-74.
15. Wolfson M, Forster JL, Claxton AJ, Murray DM. Adolescent smokers' provision of tobacco to other adolescents. *Am J Public Health* 1997;87:649-51.
16. Foster JL, Klepp K-I, Jeffery RW. Sources of cigarettes for tenth graders in two Minnesota cities. *Health Educ Res* 1989;4(1):45-50.
17. Altman D, Carol J, Chalkley C, Cherner J. Report of the Tobacco Policy Research Study Group on Access to Tobacco Products in the United States. *Tobacco Control* 1992;1(Suppl):S45-S51.
18. U.S. Department of Health and Human Services. Office on Smoking and Health. Tobacco use and usual source of cigarettes among high school students - United States, 1995. *MMWR* 1996;45(20):413-18.
19. Ontario Ministry of Health. The Ontario Tobacco Strategy Overview. Toronto: Ontario Ministry of Health, 1993.

Received: June 4, 1999

Accepted: September 17, 1999