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LOW SES SMOKERS IN ONTARIO: A COMPARISON ON THE BASIS OF EDUCATION



OUR STUDY

The smoking prevalence rate for Ontarians with no more than a high school education is 28%¹ - more than twice the rate of smokers with a university

degree. The purpose of our current evaluation study is to assess the extent to which Ontario's smoking cessation system meets the needs of smokers from a low socioeconomic status (SES) background. For study purposes, we have used level of

education as a marker for socioeconomic status. The minimum age of 24 was chosen for this study as research currently shows that the average age of graduation for the Y generation is 24 years. Until this point, adults are exploring different opportunities (including completing their high school education) before entering the workforce (Sekaly, 2007). Preliminary findings were presented in two newsletters: the first newsletter focused on the reach of existing cessation services, while the second summarized preliminary information provided through key informant interviews.

In this newsletter, we present an overview of findings from the Ontario Tobacco Research Unit's Ontario Tobacco Survey (OTS), a provincial longitudinal survey of smokers and a cross-sectional survey of nonsmokers. The survey includes questions about tobacco use, nicotine dependence, awareness of quit aids, use of quit aids, and attitudes toward stop smoking medications.

Reference

¹ CAMH Monitor 2008.

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THE PARTICIPANTS

Our OTS study sample was made up of 1,652 adult smokers (aged 24 years and older) with low education (secondary education or less) who were surveyed between July 2005 and June 2008. We compared this group to 1,913 adult smokers with higher education. Study data were weighted to reflect the Ontario adult population. Table 1 summarizes the demographic characteristics of our sample.

In order to understand how well smoking cessation services are serving the needs of low SES adult smokers we compared 902 adult smokers with low education who were recruited from July 2005 and December 2007 and had been followed for 12 months with 1,130 adult smokers with higher education, who were also followed for 12 months.

Table 1: Demographic Characteristics of Current Smokers by Level of Education, Ontario Tobacco Survey, 2005-2008

Demographic Characteristics	Secondary Education or Less (%)	More than Secondary Education (%)
Gender		
Female	45	51*
Male	55	49
Age		
24-33	22	28*
34-43	28	31
44-53	25	25
54+	26	17*
Marital Status		
Married	62	65
Not Married	38	35
Region		
Rural	23	25
Urban	77	75

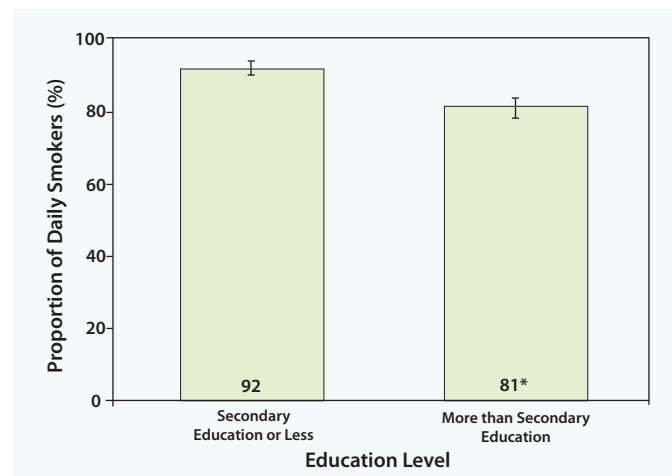
*Significantly different from smokers with secondary education or less (p-value<0.05)
Percentages may not add up to 100% due to rounding.

RESULTS

Smoking Behaviour

- Ontarians with low education are almost twice as likely to be smokers than those with higher education (28% vs. 16%, $p < 0.0001$),
- Adult smokers with lower education are more likely to be daily smokers compared to those with higher education (92% vs. 81%; Figure 1),¹ and
- Adult smokers with low education consume more cigarettes per day compared to those with higher education (mean CPD = 17 vs. 13; Figure 2).²

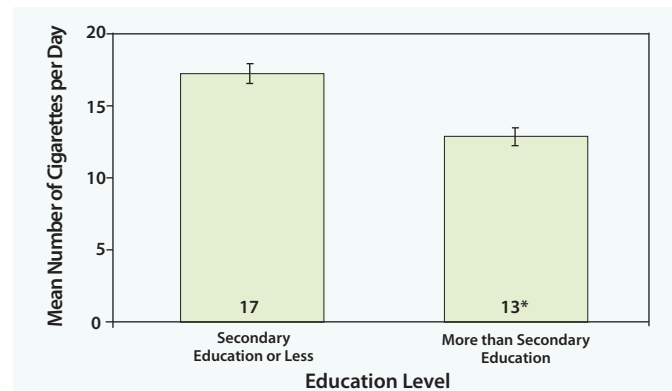
Figure 1: Proportion of Daily Smokers Among Adult Current Smokers



*Significantly different after adjusting for the effects of age and gender (p-value<0.05)

After adjusting for the effects of age and gender, smokers with low education have 2.5 higher odds for smoking daily than smokers with higher education.

Figure 2: Average Number of Cigarettes Smoked per Day by Adult Current Smokers



*Significantly different after adjusting for the effects of age, gender, and smoking status (p-value<0.001)

¹ Given the differences in the gender and age distributions between adult smokers with less than secondary education compared to those with more than secondary education we adjusted for their effects in calculating the proportion of daily smokers.

² Given the differences between adult smokers with less than secondary education and adult smokers with more than secondary education smokers in the gender age and daily smoking distributions we adjusted for their effects in cigarettes per day.



Nicotine Dependence

We used the Heaviness of Smoking Index (HSI) to measure nicotine dependence. The HSI is a six-level scale based on time to first cigarette of the day and the number of cigarettes smoked per day. HSI is computed only for daily smokers.

- After adjusting for the effect of age and gender daily smokers with low education have 1.6 higher odds for being heavily addicted (HSI score of 5 and 6) than daily smokers with higher education.

Purchasing Behaviours

- 17% of adult current smokers with low education, who purchase cigarettes in Ontario, usually purchase cigarettes from a First Nations' reserve compared to only 10% of adult smokers with higher education. After adjusting for age, gender, and smoking status, adult smokers with low education have 1.6 higher odds (95% CI=1.23-2.04) for usually purchasing cigarettes from First Nations' reserve than adult smokers with higher education.

Quit Intentions and Past Quit Attempts

- 12% of adult current smokers with low education expressed intention to quit in the next 30 days, and 34% intended to quit in the next 6 months compared to 16% and 42%, respectively, for adult current smokers with higher education. Adult current smokers with low education were less likely to have quit intentions than adult current smokers with higher education (0.73 lower odds, 95% CI=0.60-0.89). Thirty-day quit intentions did not differ significantly between the two groups.
- Equal proportions of adult current smokers from both educational groups have never tried to quit in their lifetime (17%).

Table 2: Most Common Quit Aids Mentioned by Adult Current Smokers

Quit Aid	Secondary Education or Less (%)	More than Secondary Education (%)
Nicotine patch	55	63*
Nicotine gum	49	58*
Non NRT pharmacotherapy	29	35*
Laser therapy, hypnosis or acupuncture	21	25*
None (Unable to mention at least one quit aid or resource)	5	4

* Significantly different after adjusting for the effects of age, gender, and smoking status (p-value<0.05)

Quit Aids

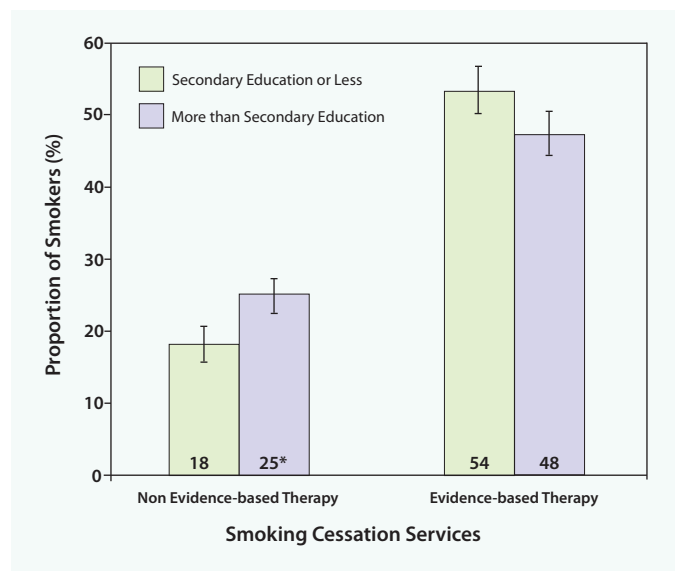
Respondents were asked to name five aids or resources that help people quit smoking. Table 2 shows the four most common quit aids participants mentioned.

Past Use of Quit Aids

No significant differences were found in the use of evidence-based services (defined here as use of NRT, group counseling/group support program, specialized addiction counselor, Ontario Smokers' Helpline) between adult current smokers with low and high education. However, adult current smokers with low education reported lower lifetime use of non evidence-based smoking cessation services (defined as hypnosis/acupuncture/laser therapy, self-help booklet/video/website/chat group) compared to adult current smokers with high education. After adjusting for the effects of age, gender, and smoking status, adult current smokers with low education were 48% less likely to have used non evidence based smoking cessation services than adult current smokers with high education (OR=0.52; 95% CI=0.42-0.64).

Figure 3 shows the proportion of participants who have ever used an evidence-based therapy, or non evidence-based therapy (defined as hypnosis/acupuncture/laser therapy, self-help booklet/video/website/chat group).

Figure 3: Lifetime Use of Smoking Cessation Services Among Adult Smokers



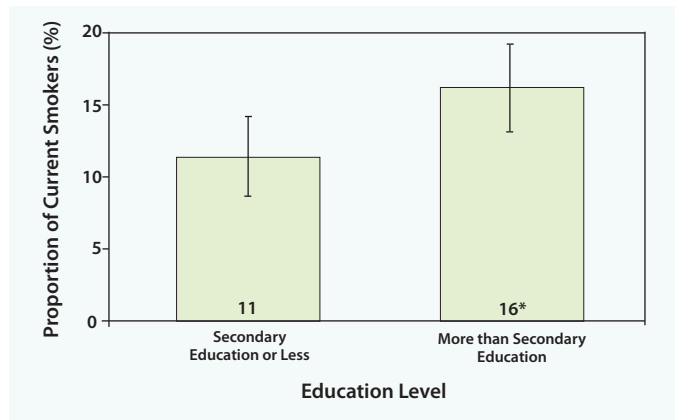
* Significantly different after adjusting for the effects of age, gender, and smoking status (p-value<0.05)



Past Use of Quit Aids continued

Smokers with low education were significantly less likely to have used an evidence-based therapy six months prior to their interview than smokers with higher education (OR=0.66, 95% CI=0.48-0.91) (Figure 4).

Figure 4: Use of Evidence-based Smoking Cessation Services 6 Months Prior to the Interview



* Significantly different after adjusting for the effects of age, gender, and smoking status (p-value<0.05)

Only about 3% (n=22,800) of both adult current smokers with low education and adult current smokers with high education had ever used a telephone helpline.

LONGITUDINAL ANALYSIS

Over the course of a year, a lower proportion of adult current smokers with low education attempted to quit smoking compared to adult smokers with higher education (Table 3). Adult current smokers with low education were 27% less likely to attempt to quit than adult current smokers with higher education (adjusting for age, gender, and smoking status) (OR=0.72; 95% CI; 0.53-0.99).

Adult smokers with low education were 43% less likely to successfully quit (remain smoke free for at least 30 days) than adult smokers with higher education (adjusting for age, gender, and smoking status) (OR=0.57; 95% CI; 0.35-0.92).

Table 3: Quitting Behaviours Among Smokers Over the Course of One Year

Quit Aid	Secondary Education or Less (%)	More than Secondary Education (%)
Attempted to quit smoking	37	47*
Reduced number of cigarettes	48	47
Successful quits	8	17*

* Significantly different after adjusting for the effects of age, gender, and smoking status (p-value<0.05)

CONCLUSION

The findings presented here suggest that, compared to adult current smokers with more than secondary education, adult current smokers with secondary education or less:

- Smoke more cigarettes per day
- Are more heavily addicted
- Are more likely to buy cigarettes from First Nations reserves
- Are less likely to have 6 month quit intentions
- Are less likely to have recently used an evidence-based therapy
- Are less likely to have attempted to quit smoking or to have successfully quit over the course of 12 months.

Our next newsletter will provide insights into the reasons why adult current smokers with low education are less likely to use evidence-based smoking cessation services and products.

REFERENCES

Sekaly GF. Institute of Public Administration of Canada Executive Brief. Toronto: Institute of Public Administration of Canada; 2007.

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