

April 2007

Regional Differences in Smoking Behaviour: Tailoring Our Efforts

Background

Regional differences in prevalence of smoking across the province of Ontario have been reported at the public health unit level.¹ Populations in which smoking behaviours remain high may be both geographically and socio-demographically distinct from other populations and thus require programs or policies tailored towards their needs. This update examines the relationship between regional socio-demographic characteristics and smoking behaviour in Ontario.

Method

Data were compiled for 1,517 recent smokers (any past six-month smoking) from the first two waves of the cross-sectional component of the Ontario Tobacco Survey, a regionally stratified random telephone survey conducted between 2005/06 in Ontario (overall response rate=64%). Socio-demographic characteristics of the community (dissemination area) in which respondents live were determined using census data based on postal code. Thirty-five (2.3%) respondents were excluded from the analysis because they did not provide a postal code. Communities were grouped based on similar demographic and economic factors. The proportion of daily smokers, Heaviness of Smoking Index (HSI) scores (a measure of dependence), and daily tobacco consumption were examined by size of municipality using design-based chi-square analyses. Given the strong associations from this analysis, subsequent regression analyses examining community socio-economic and demographic characteristics and standard smoking indicators controlled for municipality size in addition to age and sex of the respondent.

Results

Size of Municipality

- Compared to respondents living in urban municipalities, those living in rural municipalities (defined as having a population less than 10,000) were more likely to smoke daily.
- Daily smokers in rural regions had the highest average daily consumption and higher average HSI scores compared to daily smokers in urban settings.
- There was a significant trend of lower levels of daily smokers, consumption, and addiction as the municipality size increased ($p \leq 0.002$).

Economic Factors

Controlling for municipality size:

- Communities with lower median household income had significantly higher proportions of daily smokers, ranging from 90% of all recent smokers in communities with median incomes less than \$38,000 to 78% of all recent smokers in communities with household incomes over \$70,000 ($p < 0.001$).

- Communities with lower median household income also had higher average daily cigarette consumption, ranging from 16.0 cigarettes per day in communities with median household incomes below \$38,000 to 11.5 cigarettes per day in communities with median household incomes in excess of \$70,000 ($p<0.001$).
- Similar trends were also seen when categorizing communities based on average residential value with higher cigarette consumption and proportions of highly addicted smokers in communities with lower average residential home values ($p<0.01$).

Demographic Factors

Controlling for municipality size:

- Respondents living in communities where a higher percentage of the population has less than grade 9 education were significantly more likely to be daily smokers. However a linear trend was not seen; when communities were ranked by percentage of population with less than grade 9 education, 80% of recent smokers smoked daily in communities ranked in the lowest third compared to 88% of recent smokers in communities ranked in the highest two-thirds ($p<0.05$).
- Among daily smokers, there was no clear relationship between level of addiction and community-level education, although there was a slightly elevated daily consumption among smokers from municipalities with lower rates of secondary education (14.5 cigarettes / day vs. 13.2 cigarettes / day; $p=0.043$).
- Smokers from municipalities with proportionately larger immigrant populations were less likely to be daily smokers. Furthermore, daily smokers from these communities had lower levels of addiction, and correspondingly lower daily consumption.

Discussion

Tobacco control regulation remains one of our most important tools in reducing the prevalence of smoking. It will be important to monitor communities in which prevalence and consumption remain high as tobacco control policies become uniform across Ontario. These high-risk communities may further benefit from a tailored approach. An assessment of programs that meet the needs of individual communities is recommended.

Reference

¹ Ontario Tobacco Research Unit. (2006, November). Indicators of Smoke-Free Ontario Progress. [Special Reports: Monitoring and Evaluation Series, 2005-2006 (Vol. 12, No. 2)]. Toronto, ON: Ontario Tobacco Research Unit.

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