Community- and individual-level factors associated with smoking and heavy drinking among Aboriginal people in Canada

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ABSTRACT

OBJECTIVES: 1) To examine the association between place of residence (i.e., on- versus off-communities and between provinces) and daily smoking and heavy drinking among Aboriginal people in Canada; and 2) to identify community- and individual-level factors that may account for these associations.

METHODS: Data were from the Aboriginal Peoples Survey (2001). The sample included 52,110 Aboriginal people (≥15 years of age). Community-level variables included: place of residence, community socio-economic status (SES) and perceived community social problems. Individual-level variables included: age, sex, education, income, employment status, marital status, Aboriginal heritage and social support. Multilevel logistic regressions were conducted to analyze the data.

RESULTS: Living in First Nations communities (compared with living off-communities) was associated with daily smoking, and this association was accounted for by perceived community social problems. However, the association between Inuit communities and daily smoking remained after controlling for all covariates (odds ratio (OR) = 1.97, 95% confidence intervals (CI) = 1.44–2.70). Residence in First Nations communities was associated with heavy drinking (OR = 1.54, 95% CI = 1.17–2.04), however this risk became evident only after controlling for community SES, which was also positively associated with heavy drinking (OR = 1.46, 95% CI = 1.26–1.69). Compared with Saskatchewan, Aboriginal people in Atlantic Provinces (OR = 2.80, 95% CI = 2.08–3.78) or Territories (OR = 1.39, 95% CI = 1.01–1.92) were more likely to engage in heavy drinking.

CONCLUSION: Studies are needed to better understand the increased risk for smoking in Inuit communities and heavy drinking in First Nations communities, Atlantic Provinces and Territories, and to identify possible reasons for the positive association between community SES and heavy drinking among Aboriginal people.

KEY WORDS: Aboriginal people; place of residence; smoking; heavy drinking

La traduction du résumé se trouve à la fin de l'article.

Can J Public Health 2015;106(2):e22–e28
doi: 10.17269/CJPH.106.4663

Health disparities are a major public health concern in Canada today. Alarming disparities exist in the health status and behaviours of Aboriginal compared to non-Aboriginal people.^{1–5} For example, a population-based study in Manitoba reported that the life expectancy for registered First Nations people is about eight years shorter than all other Manitobans.⁵ Rates of daily smoking are more than twice as high among Aboriginal compared to non-Aboriginal people: 46.0% for on-reserve First Nations, 41.5% for off-reserve Aboriginal people, and 22.1% for non-Aboriginal people.⁶ The proportion of First Nations people (16.0%) who report heavy drinking (i.e., having five or more drinks on one occasion on a weekly basis) is double that of the general population (7.9%).⁷ Both smoking and heavy drinking have been linked to many types of cancer, cardiovascular disease and other chronic diseases.⁸ Indeed, rates of cardiovascular disease, diabetes, and chronic health conditions among Aboriginal people are at least twice those of the general population.⁴ Thus, preventing or reducing tobacco and alcohol use represents an important opportunity to reduce the burden of disease among Aboriginal people.

When studying health outcomes and risk behaviours among Aboriginal people, it is important to consider 'place of residence'. The Aboriginal population is faced with high rates of poverty, unemployment and poor living conditions, and these disadvantages

are more pronounced in certain Aboriginal communities, including First Nations communities (also known as reserves) and Inuit communities.⁶ However, the extent to which risk behaviours and health outcomes differ between Aboriginal people living on- versus those living off-communities has not been studied. Moreover, substantial interprovincial differences in smoking and heavy drinking have been documented in the general Canadian population,^{9,10} but little is known as to whether this variation applies to Aboriginal people.

Among non-Aboriginal populations, previous studies have shown that: i) socio-economic status (SES) disadvantage at the community level is associated with higher levels of crime;¹¹

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Acknowledgements: This study was approved by the Social Sciences and Humanities Research Council of Canada. Kyu. was supported by a Lawson Postdoctoral Fellowship. Georgiades was supported by a Canadian Institutes of Health Research New Investigator Award and the David R. (Dan) Offord Chair in Child Studies. MacMillan was supported by the Chedoke Health Chair in Child Psychiatry. Boyle was supported by a Canada Research Chair in the Social Determinants of Child Health, which also provided graduate student support to Kyu.

Conflict of Interest: None to declare.

ii) high crime neighbourhoods are associated with increased rates of substance use;^{12,13} and iii) community SES disadvantage is linked to increased risk for smoking.^{14–16} However, evidence for the association between community SES and alcohol use is mixed. Studies have shown both positive^{17,18} and negative¹⁹ associations between alcohol use and higher SES at the community level.

In addition to community-level factors, individual-level characteristics (e.g., SES, Aboriginal heritage, and social support) could also account for between-community differences. In general, First Nations and Inuit are likely to be socio-economically worse off than Métis.⁶ First Nations have a historic tradition of using tobacco in a sacred pipe, which is believed to be an important way of communicating with a spirit, but the Inuit have no such practice.²⁰

The protective effects of social support on health have been well established.^{21–23} Lower levels of perceived social support have also been linked to daily smoking and heavy use of alcohol among the non-Aboriginal population.^{24,25} Few studies have examined the association between social support and alcohol and tobacco use among Aboriginal people.

The objectives of this study were to examine: 1) differences in the prevalence of daily smoking and heavy drinking by place of residence – specifically, on-communities versus off-communities and between provinces among Aboriginal people in Canada; 2) the extent to which community-level SES and perceived community social problems account for these differences; and 3) the extent to which individual SES, demographic factors, Aboriginal heritage groups and social support account for these differences. The availability of data from the 2001 Aboriginal People's Survey (APS) provides a unique opportunity to address these research objectives. It is the most recent dataset where data from Aboriginal people living on-reserve are available and it has been analyzed rarely.

METHODS

We obtained data from the 2001 APS of individuals (≥ 15 yrs of age) who identified themselves as Aboriginal or being of Aboriginal ancestries in the 2001 Census. The detailed methodology has been published elsewhere²⁶ and a brief description is provided here. The APS covered Aboriginal people living on-community and off-community across Canada. The term “on-community” refers to 123 First Nations communities/reserves, 53 Inuit communities in Arctic regions and 43 other communities (28 of them have a large density of Métis people). The on-reserve sample comprised large reserves in each province and was not designed to be representative of all on-reserve populations. The term “off-community” excludes all communities mentioned above and includes all other off-reserve rural and urban areas. Aboriginal people living off-community were selected using a list of enumeration areas or primary sampling units (PSU) as the sampling frame. In each selected PSU, all Aboriginal people who got a long-form census form were selected. The overall response rate of the survey was 84.1%.

Daily smoking and heavy drinking

The dependent variables (based on respondents' self-report) included *daily smoking* (0, no; 1, yes) and *heavy drinking*, defined

as having 5 or more drinks on a single occasion at least once a week in the 12 months prior to the survey (0, no; 1, yes).

Community-level factors

In this study, census subdivision (CSD) was selected as the community-level variable because reserves constitute separate CSDs. A CSD is “the general term for municipalities or areas treated as municipal equivalents for statistical purposes (e.g., an Indian reserve).”²⁷

Community SES was measured by the *Community Well-being (CWB) Index*,²⁸ which combines measures of income, education, housing conditions (housing quality and housing quantity), and labour force characteristics (participation and employment rates). Data used to construct the CWB index were from the 2001 Census profile, except for the housing quantity variable (% population whose dwelling contains no more than 1 person per room), which we created by aggregating individual-level data from the APS up to the CSD level. A higher score of the CWB index indicates higher SES.

Perceived community social problems included 6 items: suicide, unemployment, family violence, sexual abuse, drug abuse and alcohol abuse. Respondents were asked whether each of these was a problem in their community. A response of “yes” to each question was coded as 1, while responses of “no” and “don't know” were coded as 0. All 6 items were summed to obtain a total perceived community social problems score, ranging from 0 to 6. The score was aggregated up to the CSD level by summing the scale and then taking a mean for each CSD. This scale demonstrated high internal consistency reliability (Cronbach's alpha = 0.88).

Place of residence

Community of residence was classified as First Nations communities, Inuit communities, other communities and off-communities. In the 2001 APS, information was available as to whether a respondent was living on-community or off-community. Information on whether a respondent was residing in a First Nations or Inuit community was also available. Respondents who were living on-community but not resident in either First Nations or Inuit communities were classified as ‘other communities’ (about 65% of other communities included high concentrations of Métis people). The “off-community” category excludes all communities mentioned above and includes all other off-reserve rural and urban areas.

Province of residence. Dummy variables were created for each province except for the Atlantic Provinces (Table 1). Because of the very small sample size, New Brunswick, Prince Edward Island, Nova Scotia, and Newfoundland and Labrador were categorized together as Atlantic Provinces.

Individual-level factors

These included age, sex, education, individual income, employment status, marital status, Aboriginal heritage and social support (Table 1). Respondents were asked to rate the availability of *social support* on a 4-point scale, ranging from 0, *all of the time*, to 3, *almost none of the time*. Sample items include availability of someone who shows the respondent love and affection, someone to have a good time with, etc. All items were reverse

Table 1. Sample characteristics

Level 2, CSD (n)	700
Number of individuals per CSD <i>Mean (SD)</i>	124.4 (218.2)
Community SES <i>Mean (SD)</i>	0.71 (0.04)
Community problem score <i>Mean (SD)</i>	2.4 (1.2)
Provinces (% individuals)	
Saskatchewan	11.1
Quebec	9.1
Ontario	20.3
Manitoba	15.1
Alberta	17.9
British Columbia	16.5
Other provinces	6.5
Territories	3.6
Level 1, individuals (n)	52,110
Age, years (%)	
15–19	14.3
20–29	22.7
30–39	24.3
≥40	38.7
% Male	46.8
% Employed	53.1
Income <i>Mean (SD)</i>	19,000 (22,000)
% Education	
≤Grade 8	13.0
Grade 9–10	18.3
Grade 11–13 or trades certificates	26.4
College	26.9
University	15.4
% Marital status	
Married	33.3
Separated/divorced/widowed	15.8
% Aboriginal identity	
First Nations	54.7
Métis	21.1
Inuit	3.1
>1 identity	2.2
Not identified as Aboriginal	18.9
Social support score <i>Mean (SD)</i>	19.2 (5.5)
% Smoke daily	
Off-community	35.7
Inuit communities	62.7
First Nations communities	43.0
Other communities	45.2
% Heavy drinking (n = 47,990)	
Off-community	7.3
Inuit communities	11.0
First Nations communities	7.8
Other communities	8.1

coded and summed to obtain a social support score, ranging from 0 to 24, with higher scores representing higher levels of social support. Internal consistency reliability (Cronbach's alpha) was 0.92.

Data analysis

In our descriptive analyses (Table 1), standardized sample weights were used and the results were rounded according to the guidelines of Statistics Canada. Weighted multilevel logistic regression models were constructed using the statistical software MLwiN 2.24²⁹ to run two-level random intercept models with individuals nested in CSDs (Tables 2 and 3). The models began by examining the age- and sex-adjusted associations between place of residence (i.e., on-community versus off-community and between provinces) and smoking and heavy drinking, separately (Model 1). Next, community SES and perceived community social problem variables were included in Model 2, followed by individual-level variables in Model 3.

Sample for analysis

A total of 60,499 Aboriginal people completed an interview. Census subdivisions (CSDs) with fewer than 10 Aboriginal people

in the study were dropped from the analysis to avoid statistical overlap between variables measured at the individual level and the same variables aggregated to the CSD level ($n = 4,590$ individuals were excluded). Information on individual age, sex, education, marital status, income, employment status and Aboriginal heritage was missing and excluded for about 2% of respondents. About 6% and 8% of the items used to measure perceived community social problems and social support respectively were missing and imputed using an iterative Markov chain Monte Carlo method in PASW 18. Five imputed datasets were generated and we randomly selected one for use in all analyses. Individuals with missing data on the dependent variables [smoking (2.5%) and heavy drinking (8.7%)], and individuals with missing CSD-level data (2%) were excluded. The final samples for analyses include 52,110 and 47,990 individuals for smoking and heavy drinking respectively. Excluded individuals were more likely to be younger, male, never married and to have lower levels of income and education.

RESULTS

Table 1 presents the sample characteristics. There were 700 CSDs and an average of 124 individuals in each one. Daily smoking was most prevalent in Inuit communities (62.7%) and least prevalent in off-communities (35.7%). The prevalence of heavy drinking did not vary much across communities (11.0% in Inuit communities versus 7.3 to 8.1% in the remaining communities).

Table 2 presents fixed effects for daily smoking (i.e., odds ratios (ORs) associated with study variables) and random effects (i.e., estimates for variation in smoking between CSDs). Between-CSD variation in smoking was 10.9% (Null Model). In Model 1, compared with individuals living off-community, those living on-community (Inuit, First Nations or other community) were more likely to smoke daily after adjusting for age, sex and province of residence. Compared with Aboriginal people in Saskatchewan, those in British Columbia and Atlantic Provinces were less likely to smoke daily. The variables in Model 1 explained about 50% of between-CSD variation in smoking (the variance decreased from 10.9% in the Null Model to 5.5% in Model 1). In Model 2, the increased risk for smoking in First Nations and other communities was explained by perceived community social problems. In Model 3, after including individual-level variables, the association between Inuit communities and daily smoking remained, although the OR decreased from 2.87 in Model 2 to 1.97 in Model 3. The negative association between living in British Columbia and smoking also remained but the association for Atlantic Provinces was accounted for by individual-level variables. Higher levels of perceived community social problems, being an Inuit or having more than one Aboriginal identity were associated positively while social support was associated negatively with daily smoking.

In Table 3, between-CSD variation in heavy drinking was 15.1% (Null Model). In Model 1, there was no statistically significant difference in heavy drinking between those living on-community versus those living off-community. Compared with Aboriginal people living in Saskatchewan, those in all other provinces (except Alberta) and Territories were more likely to

Table 2. Multilevel logistic regressions of daily smoking among Aboriginal peoples on all covariates

	Null Model	Model 1 OR (95% CI)	Model 2 OR (95% CI)	Model 3 OR (95% CI)
Fixed effects				
Age, years				
15–19		1.06 (0.98–1.16)	1.07 (0.98–1.16)	0.72 (0.65–0.80)
20–29		1.49 (1.37–1.63)	1.49 (1.37–1.63)	1.21 (1.10–1.33)
30–39		1.45 (1.36–1.56)	1.45 (1.36–1.56)	1.37 (1.28–1.47)
≥40		Ref.	Ref.	Ref.
Male		1.00 (0.95–1.05)	1.00 (0.95–1.05)	0.99 (0.94–1.04)
Level 2				
Community of residence				
Off-community		Ref.	Ref.	Ref.
Inuit community		3.12 (2.61–3.73)	2.87 (2.37–3.49)	1.97 (1.44–2.70)
First Nations community		1.34 (1.21–1.49)	1.11 (0.93–1.33)	1.10 (0.91–1.32)
Other community		1.22 (1.06–1.40)	1.11 (0.97–1.27)	1.04 (0.91–1.19)
Province of residence				
Saskatchewan*		Ref.	Ref.	Ref.
Quebec		0.91 (0.74–1.12)	0.93 (0.76–1.14)	0.98 (0.80–1.19)
Ontario		0.86 (0.74–1.00)	0.94 (0.80–1.10)	0.94 (0.80–1.10)
Manitoba		0.93 (0.81–1.07)	0.99 (0.86–1.13)	0.99 (0.86–1.13)
Alberta		0.92 (0.78–1.08)	0.94 (0.80–1.10)	0.94 (0.80–1.10)
British Columbia		0.54 (0.47–0.63)	0.55 (0.47–0.64)	0.54 (0.46–0.63)
Atlantic Provinces		0.71 (0.60–0.86)	0.78 (0.65–0.94)	0.86 (0.71–1.03)
Territories		1.04 (0.87–1.24)	1.02 (0.85–1.22)	1.00 (0.83–1.19)
Community SES			0.96 (0.88–1.06)	1.02 (0.92–1.12)
Community problem			1.12 (1.07–1.18)	1.09 (1.04–1.15)
Level 1				
Employed				1.05 (0.99–1.11)
Income†				0.94 (0.93–0.96)
Education				
≤Grade 8				Ref.
Grade 9–10				1.39 (1.29–1.50)
Grade 11–13				1.29 (1.19–1.38)
College				1.31 (1.22–1.42)
University				0.73 (0.65–0.83)
Marital status				
Never married				Ref.
Married				0.69 (0.64–0.73)
Divorced/widowed				0.97 (0.90–1.04)
Aboriginal identity				
Métis‡				Ref.
First Nations				0.98 (0.91–1.07)
Inuit				1.44 (1.07–1.93)
>1 identity				1.32 (1.16–1.49)
Not identified as Aboriginal				0.67 (0.59–0.76)
Social support				0.99 (0.98–0.99)
Random effects				
Between CSD Variance (SE)	0.40 (0.03)	0.19 (0.02)	0.18 (0.02)	0.18 (0.02)
Between CSD Variances expressed as a %	10.9	5.5	5.2	5.1

*Saskatchewan was used as the reference for provinces because it has the largest sample size.

†Income was rescaled for the purposes of analyses so that 1 unit increase refers to \$10,000.

‡Those having Métis identity were used as the reference because Métis are socio-economically better off than First Nations and Inuit.⁶

engage in heavy drinking. In Model 2, after including community-level covariates, the associations between heavy drinking and residence in First Nations communities and other communities became statistically significant. The increased risk for heavy drinking in some provinces (Quebec, Ontario, Manitoba and British Columbia) was accounted for by community-level covariates in Model 2. In Model 3, after including individual-level variables, there was still a significant positive association between First Nations communities and heavy drinking (OR = 1.54, 95% CI = 1.17–2.04) but this was not the case for other communities. The significant associations between residence in Atlantic Provinces (OR = 2.80, 95% CI = 2.08–3.78) and Territories (OR = 1.39, 95% CI = 1.01–1.92) and heavy drinking persisted in Model 3. Higher levels of community SES and perceived community social problems were associated positively while social support was associated negatively with heavy drinking.

DISCUSSION

This is the first study to examine differences in daily smoking and heavy drinking behaviours depending on place of residence among Canadian Aboriginal people, and to identify community- and individual-level factors that account for these differences. Place of residence along with community SES and social problems appear to exert different influences on smoking and heavy drinking. First, residing in an Inuit community was associated with elevated risk for smoking while living in a First Nations community was associated with increased risk for heavy drinking. Second, there was no community SES effect for smoking but there was a strong, statistically significant positive association between community SES and heavy drinking. This suggests that community affluence has a role in heavy drinking. Third, in contrast, perceived community social problems were associated with both smoking and heavy drinking.

Table 3. Multilevel logistic regressions of heavy drinking among Aboriginal peoples on all covariates

	Null Model	Model 1 OR (95% CI)	Model 2 OR (95% CI)	Model 3 OR (95% CI)
Fixed effects				
Age, years				
15–19		1.14 (0.99–1.32)	1.14 (0.99–1.33)	0.74 (0.62–0.88)
20–29		1.67 (1.48–1.89)	1.67 (1.48–1.89)	1.21 (1.06–1.39)
30–39		1.53 (1.37–1.72)	1.53 (1.36–1.72)	1.35 (1.19–1.52)
≥40		Ref.	Ref.	Ref.
Male		2.67 (2.43–2.93)	2.67 (2.43–2.94)	2.62 (2.37–2.89)
Level 2				
Community of residence				
Off-community		Ref.	Ref.	Ref.
Inuit community		0.68 (0.42–1.10)	0.82 (0.52–1.31)	0.73 (0.42–1.27)
First Nations community		1.16 (0.98–1.36)	1.57 (1.19–2.08)	1.54 (1.17–2.04)
Other community		1.23 (0.96–1.59)	1.30 (1.01–1.67)	1.20 (0.93–1.54)
Province of residence				
Saskatchewan*		Ref.	Ref.	Ref.
Quebec		1.48 (1.05–2.09)	1.30 (0.93–1.82)	1.29 (0.92–1.80)
Ontario		1.40 (1.07–1.84)	1.24 (0.93–1.64)	1.25 (0.94–1.65)
Manitoba		1.38 (1.03–1.85)	1.29 (0.96–1.74)	1.30 (0.98–1.74)
Alberta		0.98 (0.75–1.27)	0.84 (0.65–1.09)	0.85 (0.66–1.10)
British Columbia		1.52 (1.21–1.90)	1.23 (0.97–1.56)	1.21 (0.95–1.53)
Atlantic Provinces		2.31 (1.74–3.08)	2.49 (1.84–3.37)	2.80 (2.08–3.78)
Territories		1.55 (1.11–2.17)	1.46 (1.05–2.02)	1.39 (1.01–1.92)
Community SES			1.37 (1.18–1.58)	1.46 (1.26–1.69)
Community problem			1.13 (1.04–1.24)	1.09 (1.002–1.20)
Level 1				
Employed				1.08 (0.98–1.20)
Income†				0.98 (0.95–1.00)
Education				
≤Grade 8				Ref.
Grade 9–10				1.10 (0.94–1.29)
Grade 11–13				1.25 (1.08–1.45)
College				1.18 (1.03–1.36)
University				0.79 (0.65–0.95)
Marital status				
Never married				Ref.
Married				0.44 (0.39–0.49)
Divorced/widowed				0.85 (0.74–0.97)
Aboriginal identity				
Métis‡				Ref.
First Nations				0.97 (0.85–1.11)
Inuit				1.05 (0.70–1.56)
>1 identity				1.02 (0.77–1.36)
Not identified as Aboriginal				0.69 (0.54–0.89)
Social support				0.97 (0.97–0.98)
Random effects				
Between CSD Variance (SE)	0.59 (0.07)	0.57 (0.08)	0.53 (0.08)	0.51 (0.08)
Between CSD Variances expressed as a %	15.1	14.8	13.9	13.4

*Saskatchewan was used as the reference for provinces because it has the largest sample size.

†Income was rescaled for the purposes of analyses so that 1 unit increase refers to \$10,000.

‡Those having Métis identity were used as the reference because Métis are socio-economically better off than First Nations and Inuit.⁶

The increased risk for smoking in Inuit communities was only partially accounted for by covariates. In this study, being an Inuit and living in Inuit communities were both associated with daily smoking. Future studies should explore possible reasons for these increased risks. The elevated risk for smoking in First Nations communities and other Aboriginal communities was accounted for by perceived community social problems. This finding is consistent with previous findings among non-Aboriginal populations which have reported increased rates of substance use^{12,13} in high crime neighbourhoods.

In this study, residence in First Nations communities was associated with heavy drinking, however this risk became evident only after controlling for community SES and social problems. A separate analysis (adding community SES and social problems one at a time in the model) showed that this increased risk was due to community SES, which was also positively associated with heavy drinking. In many First Nations reserves,

prohibition of alcohol has resulted in smuggling of alcohol into communities, where it is sold at high prices.³⁰ Wealthier communities may be more likely to access smuggled alcohol, which might in turn influence heavy drinking, but we can only speculate at this time due to the lack of data regarding access to alcohol in communities. Two previous studies involving non-Aboriginal populations have also reported a positive association between living in socio-economically better-off communities and alcohol abuse,^{17,18} but one other study¹⁹ reported a negative association between higher community SES and alcohol use. Further studies are necessary to better understand the positive association between higher level of community SES and heavy drinking among Aboriginal people.

The pattern of association between province of residence and smoking/heavy drinking among Aboriginal people is consistent with that among the general Canadian population. This study found that Aboriginal people living in British Columbia were

less likely to smoke daily. The reason for this decreased risk is unknown, but British Columbia also has the lowest rate of smoking among provinces in the general Canadian population, possibly due to its extensive tobacco control policies (e.g., high tobacco taxes, smoking bans) and programs (e.g., smoking prevention/quitting programs).³¹ In this study, Aboriginal people residing in Atlantic Provinces and Territories were more likely to engage in heavy drinking. Consistently, age-standardized percentages of heavy drinking among the general population were also significantly higher than the overall Canadian percentage in most of the Atlantic Provinces, Northwest Territories, and the Yukon.¹⁰

At the individual level, there was a negative association between income and daily smoking – a finding consistent with results from a general population study in Canada.³² The protective effect of social support for both smoking and heavy drinking is consistent with the results of previous investigations.^{24,25}

This study has some limitations. One, the on-reserve sample is selective for larger reserves (i.e., First Nations communities) and only those who participated in the Census were included in the APS: as a result, it is not representative of the entire on-reserve population. Two, the relocation rate among the off-reserve Aboriginal population is high: about 41% of First Nations, 39% of Métis and 41% of Inuit had moved at least once in the 5 years prior to the 2001 APS.³³ Mobility was not controlled for in the current study and could have an influence on social support, individual income and other factors. Three, the measurement of perceived community social problems was assessed based on the respondents' awareness of the presence of problems and may not reflect the actual level of problems in the community. Four, in our analyses, we were unable to control for personal past history of trauma, a known risk factor for substance use. However, this should not alter the results significantly because it is unlikely that there is substantial difference in trauma history across communities or provinces. Finally, causal associations between the study variables and outcomes could not be established because of the cross-sectional nature of the study.

In conclusion, there were differences in smoking and heavy drinking behaviours among Aboriginal people in Canada, depending on place of residence. The increased risk for smoking in First Nations communities and other communities was accounted for by perceived community social problems. However, the association between Inuit communities and daily smoking remained after controlling for all covariates. The increased risk for heavy drinking in First Nations communities became evident only after controlling for community SES, which was also positively associated with heavy drinking. Aboriginal people in Atlantic Provinces or Territories were also more likely to engage in heavy drinking. Our study raises the following unanswered questions: i) what are the factors that account for the increased risk of smoking in Inuit communities and heavy drinking in First Nations communities, Atlantic Provinces and Territories? ii) Are there phenomena that explain the positive association between higher level of community SES and heavy drinking among Aboriginal people? The high rate of smoking and heavy drinking among Aboriginal people, and the

serious health outcomes associated with them, provide a strong rationale for addressing these questions in future studies.

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Received: July 3, 2014

Accepted: October 27, 2014

RÉSUMÉ

OBJECTIFS : 1) Examiner l'association entre le lieu de résidence (dans les communautés ou à l'extérieur, et entre les provinces) et les excès quotidiens de tabac et d'alcool chez les Autochtones du Canada; et 2) cerner les facteurs communautaires et individuels pouvant expliquer ces associations.

MÉTHODE : Nos données provenaient de l'Enquête auprès des peuples autochtones (2001). L'échantillon incluait 52 110 Autochtones (≥ 15 ans).

Les variables communautaires étaient : le lieu de résidence, le statut socioéconomique (SSE) de la communauté et les problèmes sociaux perçus de la communauté. Les variables individuelles étaient : l'âge, le sexe, l'instruction, le revenu, l'emploi, l'état matrimonial, les racines autochtones et le soutien social. Nous avons effectué des analyses de régression multiniveaux pour étudier les données.

RÉSULTATS : La vie dans les communautés des Premières nations (par opposition à la vie à l'extérieur de ces communautés) était associée au tabagisme quotidien, et cette association pouvait s'expliquer par les problèmes sociaux perçus de la communauté. Cependant, l'association entre les communautés inuites et le tabagisme quotidien subsistait même après la prise en considération de toutes les covariables (rapport de cotes (RC) = 1,97, intervalle de confiance (IC) de 95 % = 1,44–2,70). Le fait de résider dans une communauté des Premières nations était associé à l'excès d'alcool (RC = 1,54, IC de 95 % = 1,17–2,04), mais ce risque ne devenait manifeste qu'après avoir tenu compte du SSE de la communauté, lequel était aussi lié positivement à l'excès d'alcool (RC = 1,46, IC de 95 % = 1,26–1,69). Comparativement à ceux de la Saskatchewan, les Autochtones des provinces de l'Atlantique (RC = 2,80, IC de 95 % = 2,08–3,78) ou des Territoires (RC = 1,39, IC de 95 % = 1,01–1,92) étaient plus susceptibles de faire des excès d'alcool.

CONCLUSION : Des études sont nécessaires pour mieux comprendre le risque accru de tabagisme dans les communautés inuites et l'excès d'alcool dans les communautés des Premières nations, les provinces de l'Atlantique et les Territoires, et pour découvrir les raisons possibles de l'association positive entre le SSE communautaire et l'excès d'alcool chez les Autochtones.

MOTS CLÉS : population d'origine amérindienne; lieu de résidence; tabagisme; excès d'alcool