Socio-economic status and fruit juice consumption in Canada

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ABSTRACT

OBJECTIVES: The role of socio-economic status (SES) in fruit juice and fruit drink consumption is not well understood in a Canadian context. This study examines the relationship between SES and Canadian fruit juice and fruit drink consumption.

METHODS: The Canadian Community Health Survey (2011–2012), a cross-sectional survey that employs multistage cluster sampling, provided relevant data for a sample of 103 125 Canadians, aged 12 and older, living in the 10 provinces. Household income level decile, ranked at the health region level, was used as a surrogate measure of SES. Fruit juice and fruit drink consumption data were collected via self-report in telephone/in-person interviews. Multivariable gamma regression was used to model the relationship between SES and frequency of fruit juice and fruit drink consumption, adjusting for age, sex, diabetes status, daily fruit and vegetable consumption, education level, racial identity and physical activity.

RESULTS: A negative relationship was found, with a decreasing daily rate of fruit juice and fruit drink consumption associated with increasing SES. In the adjusted model, Canadians in the lowest SES category consumed fruit juice and fruit drinks at an average daily rate 1.18 times (95% CI: 1.14–1.23) that of Canadians in the highest SES category.

CONCLUSION: The negative association between health region-adjusted SES and fruit juice and fruit drink consumption highlights the potentially important role of socio-economic factors at a local level. Canadian policy that aims to lower fruit juice and fruit drink consumption, and thus sugar intake, should target financial avenues (such as making fruit juice less financially attractive by lowering the cost of whole fruit and vegetables) in addition to communicating health benefits.

KEY WORDS: Fruit and vegetable juices; socio-economic factors; income

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

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There is a growing body of evidence on the adverse health impacts of high sugar consumption, including obesity, type 2 diabetes and tooth decay.^{1,2} The 2015 World Health Organization (WHO) Guidelines on Sugar Intake for Adults and Children recommend that no more than 10% of daily calories be consumed from free sugars (i.e., sugars added to foods/drinks as well as “sugars naturally present in honey, syrups, fruit juices and fruit juice concentrates”), with reduction to below 5% of daily caloric intake suggested for additional health benefits.³ In the most recently available cycle of the Canadian Community Health Survey (CCHS)-Nutrition in 2004, sugar (naturally occurring and added) comprised on average 20% of the daily calories consumed by Canadians;⁴ subsequent analysis has suggested that added sugars account for over half of total sugar intake, with Canadians obtaining an average of 11%–13% of total energy intake from added sugars.⁵ Among Canadians aged 19 and older, over 10% of total sugar intake was obtained from free sugars found in fruit juices and fruit drinks (no differentiation is made between these two beverage categories on the CCHS), with an average of over 15% among children aged 9–18.⁴ Therefore, lowering Canadians' fruit juice and fruit drink consumption represents a potential target for reducing sugar consumption below acceptable WHO guidelines.

Although fruit juices offer more nutritional benefit than fruit flavoured drinks, and 100% fruit juices have none of the added sugar that is present in sweetened fruit juices and fruit drinks, all three types of fruit beverages are considered sources of free sugars

which show evidence of risk to health.^{3,6} As such, Health Canada issued a statement in 2015 that having more than the Canadian Food Guide serving of one 125 mL serving of fruit juice per day may lead to too much sugar intake, depending on age, sex, and other foods consumed.⁷

Dissemination of health-related knowledge about the high sugar content of fruit juice can improve Canadians' health literacy and may help reduce fruit juice consumption.⁸ However, as environmental factors like accessibility have been shown to play a significant role in fruit and vegetable (FV) intake at a community level,^{9,10} it is important that Canadians knowledgeable about the high sugar content of fruit juice are also provided with access and financial incentives to purchase lower sugar alternatives (like whole FV) at their local store.

In Canada, lower socio-economic status (SES) has been associated with lower access to FV^{11,12} and consuming lower

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amounts of fruit.¹³ Fruit juices have been reported to be cheaper than fruit^{14,15} and are usually available in convenience stores that tend to be more prevalent in low-SES neighbourhoods, where there may be limited access to supermarkets selling whole FV.¹⁰ Lower SES may therefore be associated with higher fruit juice consumption because of juice's affordability to the consumer. As such, this study investigates if household income level, adjusted at the health region level (as the best indicator of FV accessibility at a "neighbourhood" level), is associated with the daily rate of fruit juice and fruit drink consumption among Canadians.

METHODS

Study design

The Canadian Community Health Survey (CCHS) is a population-based, cross-sectional health survey conducted by Statistics Canada over a two-year survey cycle.¹⁶ The survey contains information related to the health status, health determinants and health care utilization of Canadians aged 12 years and above, living in privately occupied dwellings in the 10 provinces and 3 territories of Canada. The study sample is representative of 98% of the Canadian population; Canadians living on Reserves, residing in institutions, fully employed in the Canadian Forces, and living in certain remote regions are not sampled. The sampling method involves multistage cluster sampling of individuals within household clusters by health region strata, and data are obtained via in-person and telephone interviews. Data from 124 929 participants were collected in the CCHS (2011–2012).

Analytic sample

The analysis included CCHS participants residing in the 10 provinces; participants residing in the 3 territories were not included in the Statistics Canada derived variable of health region-adjusted household income level. Approximately 10 000 respondents living in the 10 provinces were not included in the categorical ranking of household income level, adjusted at the health region level (explanatory variable); these participants were grouped in the "Missing" Category of income decile for analysis, which has been done previously with CCHS data.¹⁷ Participants with invalid responses (Don't know, Refusal, Not Stated) to the outcome variable or at least one potential confounding variable were excluded. A total of 103 125 respondents were included in the final analytic sample, reflecting 85% of sampled respondents from the 10 provinces (Figure 1).

Study variables

Household income and food security status are both commonly used as SES surrogate measures in health studies, and are associated with Canadian FV consumption^{18,19} and with each other in Canada.¹⁹ From an epidemiologic perspective, these relationships make it important to only include one of these measures in an etiologic model of fruit juice and drink intake to avoid a biased SES effect estimate.

While food security measures the ability of an individual to have physical and economic access to food that meets their dietary needs,²⁰ the decision to consume added sugar in fruit juice and fruit drinks represents a more subtle dietary difference that is likely of less relevance to an individual who is food-insecure. A socioeconomic influence affecting one's fruit juice and fruit drink intake

Figure 1. Selection of study sample from Canadian Community Health Survey (2011–2012) respondents to investigate association between household income and fruit juice consumption

is therefore hypothesized to be more detectable by income level than by food security status.

In the CCHS (2011–2012), each respondent was asked for a numerical estimation of total household income from all sources in the past 12 months. Statistics Canada created a ratio of the reported total household income to a low-income threshold. The low-income threshold was an amount designated by the Survey of Labour and Income Dynamics (2010) at which a family would typically spend a larger portion of its income than the average family (of the same household size and community size) on the necessities of food, shelter and clothing.²¹ The three derived variables consisted of 10 evenly distributed, ordered groupings (“deciles”) of household income ratios at a national, provincial or health region level. Health region-adjusted household income decile, the explanatory variable, provides a comparison of a respondent’s household income relative to that of other respondents in the same health region, for each of the 107 health regions in the 10 provinces.

The outcome variable is a continuous measure of the self-reported daily frequency (number of times, not servings) of fruit juice and fruit drink consumption. Respondents were free to answer this question in terms of average daily, weekly, monthly or yearly consumption; Statistics Canada converted all responses to daily frequencies, rounding to the nearest tenth of daily frequency. Previous research on self-reported food intake suggests the potential for over-reporting healthful food intake.²² While this is a potential source of bias in this study, as fruits, vegetables and fruit juice are generally perceived as healthful, there is no plausible reason to assume a substantial differential bias by income level. Thus, this analysis may produce a more conservative estimate of the relationship between SES and fruit juice/drink consumption among Canadians.

Potential confounders include those found to be significantly associated with free sugar consumption in the 2004 CCHS-Nutrition Survey, including age (12–17, 18–29, 30–49, 50–69, 70 or older), sex (male versus female), and diabetes status (diabetic versus non-diabetic). Total FV consumption (daily frequency), education level (<secondary school, secondary school completion, or some/completed post-secondary education), racial identity (white versus visible minority) and physical activity (any physical activity in the last three months versus not) were identified as potential confounders as they have been independently shown to be significantly associated with both consumption of fruit juice/drinks and income.

Analysis plan

Multivariable gamma regression was used to model the continuous frequencies of daily fruit juice/drink consumption (rounded to the nearest tenth of a decimal place by Statistics Canada). Because gamma regression models cannot handle “0” values, all respondents reporting no consumption of fruit juices/drinks were modeled with “0.001”. Multivariable negative binomial regression was used (multiplying reported fruit juice/drink frequencies by 10 to achieve whole number counts) to check the robustness of the results. All analyses were conducted using SAS, version 9.3 (SAS Institute Inc., Cary, NC). Sampling weights provided by Statistics Canada were used to provide point estimates that are representative of age groupings and sex of Canadians in each

health region and generate variance estimates that account for the non-random sampling strategy used for the CCHS. The CCHS is conducted under the authority of the Statistics Act that requires that the data be kept private and confidential.²³ Ethics approval for this study falls under jurisdiction of Item 1.3.1 that governs the use of public release data set under the University of British Columbia’s Policy #89: Research and Other Studies Involving Human Subjects.²⁴

Sensitivity analyses with household income decile adjusted at a national and provincial level were conducted to determine if the association between SES and frequency of fruit juice/drink consumption was attenuated at a larger geographic scale. Further sensitivity analysis included chi-square and *t*-tests for differences in proportions/means of covariates between the full sample and the final analytic sample containing only those with valid responses for health region-adjusted income decile. Last, multivariable gamma regression was also conducted without including daily FV frequency in the model to determine its impact on the study findings.

RESULTS

The analytic sample contained slightly more females (51%) than males, and was primarily comprised of individuals who identified their ethnicity as white (78%). Only a small percentage of the sample reported a diagnosis of diabetes (6%). In over 9 out of 10 households (94%), a family member had completed at least secondary school education. One third of the sample were aged 30–49 years, with a smaller proportion of respondents in the youngest age group of 12–17 years (8%) and the oldest age group of 70+ years (10%) (Table 1).

While respondents reported daily frequencies of fruit juice/drink consumption ranging from 0 to 20 times per day, the distribution was highly skewed toward lower frequencies of consumption. The overall median of daily fruit juice/drink consumption among Canadians living in the 10 provinces was 0.35 times per day (95% CI: 0.34–0.36). Approximately four fifths of sample respondents consumed fruit juice/drinks no more than once per day, and approximately one fifth of sample respondents never consumed fruit juice/drinks. The frequency of daily total FV consumption had an overall median of 4.33 times per day (95% CI: 4.30–4.37). An average of 15% of daily FV intake among the study sample was obtained from fruit juice.

Bivariable analyses showed that health region-adjusted household income level was strongly associated with food security status ($p < 0.0001$). Food security status was not a significant predictor of fruit juice/drink consumption ($p = 0.8$) while household income level was statistically significant ($p < 0.0001$). Compared to Canadians of high SES, those of low SES had a lower daily rate of whole FV consumption and a higher daily rate of fruit juice/drink consumption in bivariable analyses (Table 1).

For the main research question, a decreasing relative rate of daily fruit juice/drink consumption was found as SES decile increased, using gamma regression. This result is nearly identical to related rates found using negative binomial regression. In the unadjusted model, the consumption of fruit juice/drinks generally increased in a stepwise fashion with decreasing household income. Compared to the highest household income level, the relative rate of daily

Table 1. Characteristics of Canadian Community Health Survey (2011–2012) sample ($n = 103\,125$); association between health region-adjusted household income decile and fruit juice consumption

Variable	N	Household income decile*			
		1	5	10	Missing
Study sample size (weighted %)	103 125	9207 (9%)	9452 (10%)	9452 (11%)	8990 (3%)
Fruit juice intake					
Median times/day (95% CI)	0.35 (0.34–0.36)	0.34 (0.32–0.36)	0.35 (0.33–0.37)	0.34 (0.33–0.36)	0.35 (0.33–0.37)
Fruit/vegetable intake					
Median times/day (95% CI)	4.33 (4.30–4.37)	3.86 (3.73–3.99)	4.34 (4.20–4.48)	4.51 (4.40–4.61)	4.15 (4.05–4.25)
Sex					
Female	52 812 (51%)	5976 (59%)	5260 (51%)	4439 (43%)	5050 (52%)
Male	41 323 (49%)	3231 (41%)	4192 (49%)	5015 (57%)	3940 (48%)
Age group (years)					
12–17	7251 (8%)	783 (10%)	777 (8%)	656 (6%)	652 (8%)
18–29	13 074 (19%)	1512 (24%)	1286 (18%)	1221 (14%)	1139 (15%)
30–49	24 103 (33%)	1899 (28%)	2333 (34%)	3002 (38%)	2049 (30%)
50–69	33 728 (31%)	3019 (26%)	3389 (30%)	4094 (39%)	3496 (34%)
70+	15 979 (10%)	1994 (11%)	1667 (10%)	481 (3%)	1654 (12%)
Race					
White	89 954 (78%)	7251 (62%)	8234 (77%)	8668 (88%)	8007 (88%)
Visible minority	13 171 (22%)	1958 (38%)	1220 (23%)	786 (12%)	983 (12%)
Household education					
<Secondary	10 942 (6%)	2698 (19%)	642 (4%)	110 (1%)	1428 (16%)
Secondary	13 741 (11%)	1552 (16%)	1384 (12%)	538 (4%)	1466 (12%)
Post-secondary	78 712 (83%)	4957 (65%)	7426 (84%)	8806 (95%)	6096 (72%)
Diabetes status					
Diabetic	8275 (6%)	1098 (8%)	733 (6%)	424 (3%)	848 (8%)
Non-diabetic	94 850 (94%)	8109 (92%)	8719 (94%)	9030 (97%)	8142 (92%)
Physical activity					
Any, last 3 months	95 732 (92%)	8009 (86%)	8794 (91%)	9151 (96%)	8282 (93%)
None	7393 (8%)	1198 (14%)	698 (9%)	303 (4%)	708 (7%)

* Table only includes lowest, middle, highest and missing income level deciles.

fruit juice/drink consumption was 1.13 (95% CI: 1.09–1.18) times as frequent in income decile 1. After adjusting for the confounding effects of age, sex, race, highest level of education in the household, diabetes status and engaging in physical activity within the last three months, the relative rates of fruit juice/drink consumption of each household income decile remained approximately the same as in the unadjusted model (Table 2). However, by also controlling FV consumption, the relative rates of fruit juice/drink consumption of each household income decile increased slightly (Table 2). In the adjusted model, Canadians in the lowest decile consumed fruit juice/drinks at an average daily rate of 1.18 times (95% CI: 1.14–1.23) the average daily rate of Canadians in the highest income decile. In the adjusted model, the relative rates of most household income deciles (with the exception of deciles 8 and 9) excluded “1” when compared to the highest household income decile. In addition, the relative rate estimates followed a consistent, decreasing trend moving along to higher income deciles in unadjusted and adjusted models.

Sensitivity analyses revealed the same, negative stepwise trend between increased fruit juice consumption and both nationally-adjusted and provincially-adjusted decreased household income decile variables (Table 2). The model fit of the nationally-adjusted SES measure and the provincially-adjusted SES measure were both substantially less than the health region-adjusted measure, based on the Akaike Information Criteria (AIC). Including FV daily intake frequency in the model increased the relative rates of fruit juice/drink consumption by income deciles compared to leaving this variable out of the model (Table 2). Examination of the AIC also showed a better model fit by including FV daily frequency of intake versus not. Statistical testing showed no significant changes in the

proportions/means of covariates by excluding missing values for health region-adjusted income decile (results of statistical tests not shown).

DISCUSSION

The results of this study support the primary research hypothesis of an increasing rate of fruit juice consumption among Canadians with decreasing SES, measured at the health region level. The inverse relationship between household income level and fruit juice consumption matches with recent results from the US²⁵ and suggests an important role of the local “food environment” on fruit juice consumption.^{9–11,26} Previous research in a Canadian context has noted that food availability, food quality and food affordability are better predicted at a smaller geographic scale.²⁷

Fruit juice consumption is positively associated with FV consumption, suggesting that Canadians consuming fruit juice are, on average, eating more fruit and vegetables. However, the relationship between income decile and fruit juice consumption is strengthened when controlling for FV consumption, which signals that, irrespective of intake of FV, fruit juice consumption is higher among those with lower income. Therefore, other factors than those that influence FV intake, such as health consciousness, may be affecting fruit juice consumption. We suspect that affordability plays a role in consumption of fruit juice; the cost of food in general has been ranked as the second most influential factor in food decisions, behind taste.²⁸ In regards to consumer spending, juices have been shown to be one of the most responsive food groups to price changes,²⁹ and fruit juice has been reported to be less expensive than whole fruit on a cost per calorie basis.¹⁵

Table 2. Relative rates of daily fruit juice consumption by health region-adjusted household income decile and selected characteristics, Canadian Community Health Survey 2011–2012 (*n* = 103 125)

Variable	Unadjusted RR (95% CI)	Adjusted RR* (95% CI)	Adjusted RR† (95% CI)
Household income decile, health region-adjusted			
1	1.13 (1.09–1.18)	1.11 (1.07–1.16)	1.18 (1.14–1.23)
2	1.11 (1.07–1.15)	1.12 (1.07–1.16)	1.16 (1.11–1.20)
3	1.12 (1.08–1.17)	1.12 (1.08–1.17)	1.16 (1.12–1.21)
4	1.07 (1.03–1.12)	1.08 (1.03–1.12)	1.14 (1.09–1.18)
5	1.09 (1.05–1.14)	1.10 (1.05–1.14)	1.12 (1.08–1.16)
6	1.13 (1.09–1.18)	1.12 (1.08–1.17)	1.13 (1.09–1.17)
7	1.08 (1.04–1.12)	1.07 (1.03–1.11)	1.11 (1.07–1.15)
8	1.05 (1.01–1.09)	1.05 (1.01–1.09)	1.04 (1.00–1.08)
9	1.00 (0.97–1.05)	1.00 (0.97–1.04)	1.04 (1.00–1.08)
10 (Referent)	1.00	1.00	1.00
Missing	1.08 (1.02–1.14)	1.08 (1.02–1.14)	1.13 (1.07–1.19)
<i>Sensitivity analysis</i>			
Household income decile, provincially-adjusted			
1	1.11 (1.07–1.15)	1.12 (1.07–1.16)	1.18 (1.14–1.23)
2	1.08 (1.04–1.12)	1.13 (1.08–1.18)	1.17 (1.12–1.21)
3	1.08 (1.05–1.12)	1.11 (1.07–1.15)	1.15 (1.11–1.20)
4	1.04 (1.01–1.08)	1.11 (1.07–1.15)	1.15 (1.11–1.20)
5	1.06 (1.03–1.11)	1.08 (1.04–1.13)	1.11 (1.07–1.15)
6	1.10 (1.06–1.15)	1.13 (1.08–1.17)	1.14 (1.10–1.19)
7	1.05 (1.02–1.10)	1.04 (1.00–1.08)	1.06 (1.08–1.14)
8	1.02 (0.99–1.06)	1.07 (1.03–1.12)	1.07 (1.03–1.12)
9	0.98 (0.95–1.01)	1.00 (0.97–1.04)	1.02 (0.99–1.07)
10 (Referent)	1.00	1.00	1.00
Missing	0.97 (0.62–1.51)	0.89 (0.57–1.39)	0.91 (0.59–1.38)
Household income decile, nationally-adjusted			
1	1.11 (1.07–1.15)	1.10 (1.06–1.14)	1.16 (1.12–1.21)
2	1.08 (1.04–1.13)	1.09 (1.05–1.13)	1.15 (1.10–1.19)
3	1.08 (1.03–1.13)	1.08 (1.03–1.13)	1.11 (1.06–1.17)
4	1.04 (1.01–1.08)	1.04 (1.01–1.08)	1.10 (1.06–1.14)
5	1.06 (1.03–1.10)	1.07 (1.03–1.11)	1.08 (1.05–1.12)
6	1.10 (1.06–1.14)	1.10 (1.06–1.14)	1.09 (1.06–1.13)
7	1.05 (1.00–1.08)	1.04 (1.00–1.08)	1.08 (1.04–1.12)
8	1.02 (0.99–1.06)	1.02 (0.99–1.06)	1.01 (0.98–1.05)
9	0.98 (0.95–1.01)	0.98 (0.95–1.01)	1.01 (0.97–1.04)
10 (Referent)	1.00	1.00	1.00
Missing	0.97 (0.562–1.51)	0.87 (0.56–1.34)	0.88 (0.58–1.34)

* Adjusted for age, sex, diabetes status, education level, racial identity and physical activity (*not* daily FV consumption).

† Adjusted for daily FV consumption, age, sex, diabetes status, education level, racial identity and physical activity.

Sensitivity analyses showed a consistently negative stepwise trend with provincially- and nationally-weighted measures of Canadian SES; however, health region-weighted SES was the best geographical SES predictor of fruit juice consumption, based on model fit criteria. The improved model fit at the health region level, relative to the provincial and national level, provides further evidence of “neighbourhood”-level environmental impacts on fruit juice consumption.

Limitations

There are limitations in this study. The CCHS 2011–2012 does not differentiate between different types of fruit juice, i.e., fruit-flavoured drinks, sugar-sweetened fruit juice, or 100% unsweetened fruit juice. While all three sources contain “free sugar”, only the latter is currently listed as a valid serving of fruits and vegetables by Health Canada.⁷ Evidence on the adverse effects of free sugars from 100% fruit juice is mixed⁶ while that in relation to sugar-sweetened juices and drinks is substantial.³⁰ Future studies that differentiate between these different subcategories of fruit juice may shed light on different strengths of association with SES of relevance to public health interventions. The CCHS 2011–2012 asked respondents about their daily frequency of fruit juice consumption, not daily servings. While the frequency reported by each respondent may not equate to an equal amount of servings

of juice consumed, the differences in the serving size relative to respondents’ reported “frequency” is assumed to be similar across all SES levels. The assumed non-differential misclassification of servings to frequencies of fruit juice would bias the results toward a null finding. A study on daily servings of fruit juice consumed by Canadians is warranted to determine whether an inverse association between SES and servings of fruit juice holds. Measurement error was introduced by converting all respondents’ estimations of frequency of fruit juice consumption to a daily frequency if fruit juice consumption was initially reported within another time frame; the rate ratios provided in Table 2 should be interpreted accordingly.

CONCLUSION

Daily fruit juice consumption has been cited by Health Canada as a possible dietary concern because of high free sugar intake.⁷ While communication of this impact to the broad Canadian population may reduce fruit juice intake, this study has shown that other social and economic factors, like the cost of fruit juice, may take precedent in low-SES neighbourhoods. Environmental and policy interventions have been described by WHO and other health organizations as the most promising targets for population-level improvements in nutrition.³¹

Canadian programs and health policies should consider all incentives of Canadian food purchases and attempt to make fruit juice less financially attractive by, for example, increasing the amount of affordable FV options in supermarkets, restaurants and convenience stores. Future studies should examine the relationship between fruit juice consumption and detailed measures of the Canadian food environment at a smaller geographic scale²⁷ to determine specific social and economic drivers of fruit juice consumption and direct future Canadian policy.

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RÉSUMÉ

OBJECTIFS : Le rôle du statut socioéconomique (SSE) dans la consommation de jus de fruits et de boissons aux fruits dans le contexte canadien est méconnu. Notre étude porte sur la relation entre le SSE et la consommation canadienne de jus de fruits et de boissons aux fruits.

MÉTHODE : L'Enquête sur la santé dans les collectivités canadiennes (2011–2012), une enquête transversale qui emploie un échantillonnage en grappes à plusieurs degrés, a fourni des données pertinentes pour un échantillon de 103 125 Canadiens et Canadiennes de 12 ans et plus vivant dans les 10 provinces du pays. Le décile du revenu du ménage, classé au niveau de la région sanitaire, a servi de mesure auxiliaire du SSE. Les données sur la consommation autoévaluée de jus de fruits et de boissons aux fruits ont été recueillies au moyen d'entretiens en téléphone ou en personne. La régression gamma multivariée a permis de modéliser la relation entre le SSE et la fréquence de consommation de jus de fruits et de boissons aux fruits corrigée selon l'âge, le sexe, le statut à l'égard du diabète, la consommation quotidienne de fruits et de légumes, le niveau d'instruction, l'identité raciale et l'activité physique.

RÉSULTATS : Nous avons trouvé une relation négative : un taux décroissant de consommation quotidienne de jus de fruits et de boissons aux fruits était associé à la croissance du SSE. Selon le modèle corrigé, les Canadiens de la plus faible catégorie de SSE consommaient des jus de fruits

et des boissons aux fruits à un taux moyen quotidien 1,18 fois supérieur (IC de 95 % : 1,14–1,23) à celui des Canadiens de la catégorie de SSE la plus élevée.

CONCLUSION : L'association négative entre le SSE corrigé selon la région sanitaire et la consommation de jus de fruits et de boissons aux fruits fait ressortir le rôle potentiellement important des facteurs socioéconomiques à l'échelon local. Les politiques canadiennes qui visent à

réduire la consommation de jus de fruits et de boissons aux fruits, et donc l'apport en sucre, devraient envisager des mesures financières (comme de rendre les jus de fruits moins intéressants financièrement en réduisant le coût des fruits et légumes entiers) en plus de faire connaître les avantages pour la santé.

MOTS CLÉS : jus de fruits et de légumes; facteurs socioéconomiques; revenu