ABSTRACT

Using the data from a number of the surveys conducted over the last 10 years by Santé Québec, this study examines the health characteristics of two populations of Aboriginal women of northern Quebec compared to those of women in the rest of the province.

The northern populations had a larger proportion of young women. Aboriginal women have heavier family responsibilities than other Quebec women. Inuit women had a much higher prevalence of smoking and drug use. Alcohol consumption was less frequent in northern women, but the quantity consumed was higher compared to other Quebec women. Cree women tended to be more obese, had higher levels of blood glucose and lower levels of cholesterol. Inuit women tended to have lower rates of hypertension and higher rates of declared hearing problems and mental disorders. The similarities and differences observed among these three populations of women can assist decision-makers in setting priorities with regards to maintaining and improving their health.

ABRÉGÉ

Effectuée à partir de plusieurs enquêtes réalisées depuis 10 ans par Santé Québec, cette étude présente un tableau comparatif des caractéristiques liées à la santé de deux populations de femmes autochtones du Québec nordique par rapport à la population féminine du reste de la province.

Plus jeunes que les autres Québécoises, les femmes autochtones du Nord ont une charge familiale beaucoup plus lourde. Chez les Inuites, on observe des prévalences plus élevées de tabagisme et d'utilisation de drogue. La consommation d'alcool est moins fréquente parmi les femmes nordiques mais la quantité consommée est plus grande que chez les autres Québécoises. On retrouve des prévalences plus élevées d'obésité et d'hyperglycémie et des taux de cholestérol moins élevés chez les femmes cries alors que les femmes inuites sont moins nombreuses à souffrir d'hypertension. Ces dernières déclarent aussi plus souvent des problèmes d'ouïe et de santé mentale. Les convergences et divergences observées entre ces trois populations de femmes pourront éclairer les décideurs dans le choix des priorités à privilégier pour maintenir et améliorer leur santé.

The Health of Cree, Inuit and Southern Quebec Women: Similarities and Differences

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A number of authors have demonstrated that the health of Aboriginal people differs markedly from that of other Canadians.[1,2] Studies about women have been particularly sparse or mainly based on morbidity and mortality data.[3] Painting a comprehensive portrait of Aboriginal women's health is not an easy task, since they form a heterogeneous group belonging to diverse nations. They live in different geographic environments and speak different languages.[4]

Data derived from Santé Québec's surveys of the Cree and Inuit, however, can provide useful indicators to help gain a better understanding of various aspects of Aboriginal women's health. These indicators are, for the most part, the same as those used in surveys of the rest of Quebec's population, thereby allowing comparisons to be made. Another benefit is that these data were provided by the women themselves, who expressed their points of view on a variety of health-related topics. The information gathered therefore complements morbidity and mortality data.

The goal of this study was to share the information on Aboriginal women in Santé Québec's databases and render it accessible to researchers, practitioners in the field, community groups and decision-makers. The data is from three populations consisting of the Cree women of James Bay, the Inuit women of Nunavik, and women in southern Quebec. Socio-demographic and health-related characteristics of the two populations of Aboriginal women are presented and compared to those of women in southern Quebec.

METHODS

The 1987 Santé Québec Health Survey (QHS-87)[5,6] was the first of several similar cross-sectional surveys examining the prevalence of a wide variety of health and social problems. Since this province-wide survey had not included the northern regions, special surveys were developed and adapted to their socio-cultural specificity, namely the 1991 Santé Québec Health Survey of the James Bay Cree (CHS-91),[7] and the 1992 Santé Québec Health Survey among the Inuit of Nunavik(IHS-92).[8,9] They were modelled on the QHS-87 and the 1990 Santé Québec Heart Health Survey (HHS-90).[10] In 1992-93, Santé Québec conducted a second general health survey, the Health and Social Survey 1992-93 (HSS-92),[11,12] primarily aimed at updating the information collected in 1987. In most of these surveys, a household questionnaire was administered by an interviewer to a representative member of each household, who responded on behalf of the family. An individual questionnaire was then given to all individuals 15 years of age and over. For the northern and heart health surveys, all respondents 18 years of age and over also underwent a clinical examination including anthropo-

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TABLE I
Description of Santé Québec Surveys

Survey (ref.)	Acronym	Study Population	Response Rates (%) Household Interview	Individual Questionnaire	Confidential Questionnaire	Clinical Exam	Sample Sizes (N) Households	Subjects
Quebec Health Survey (1987)[5,6]	QHS-87	General population Southern Quebec	87.3	81	N/A	N/A	11,323	19,724
Heart Health Survey (1990)[10]	HHS-90	General population Southern Quebec	N/A	77	N/A	69	N/A	2354
Cree Health Survey (1991)[7]	CHS-91	James Bay Cree	88.5	79.5	78.1	74.9	354	1999
Inuit Health Survey (1992)[8,9]	IHS-92	Inuit of Nunavik	79.8	55.6	52.5	54	319	1567
Health and Social Survey (1992-93)[11,12]	HSS-92	General population Southern Quebec	87.2	85	N/A	N/A	13,266	23,564

metric and physiological measurements completed by blood samples.

Unless otherwise specified, the data used to fulfill our study objectives were extracted from the CHS-91,[7] the IHS-92[8,9] and the HSS-92.[11,12] The QHS-87[5,6] and the HHS-90[10] were used only when the information was not available from the more recent surveys. Sample sizes and response rates are provided in Table I, and interested readers may refer to specific reports for a complete description of the data collection procedures and sampling frames.[5-12]

Prevalence rates were based on data weighted to account for sampling frames and non-response rates. Estimates were compared using the chi-square test or analysis of variance for sample means. Corrections were made for the complexity of the sampling frames using a method developed by Kish,[13] whereby a design effect was first calculated for each estimator based on that obtained from a simple random sample of the same size. The sample size, from which each prevalence estimate is derived, was then divided by the calculated design effects before statistical testing. All differences mentioned in the text are significant at a level < 0.01.

RESULTS

Socio-demographic aspects

As shown in Table II, northern women were found to be much younger than women in southern Quebec, with twice as many of them under 25 years of age.

Important variations were observed among the three populations in terms of family and household structure. The number of individuals averaged around five per household in northern communities, twice that of households in southern Quebec.

TABLE II
Socio-demographic Characteristics of the Cree, Inuit and Southern Quebec Women

	Cree %	Inuit %	Southern Quebec %
Age (years)			
<15	34.7	39.6	19.2
15-24	24.2	23.0	12.9
25-44	24.3	23.5	34.4
45-64	12.0	11.5	21.7
≥65	4.7	2.4	11.8
No. individuals per household, mean (SD*)	5.6 (2.4)	5.0 (4.7)	2.6 (1.3)
Household structure			
Two-parent family	48.9	47.0	27.6
Single-parent family	3.3	15.0	6.7
Multi-family household	27.6	26.2	0.0
Other, with children	2.2	0.0	3.1‡
No children family	17.8	11.8	62.6
Households† with children under 18	82.0	88.2	37.4

* Standard deviation
† Denominator is the total no. of households
‡ Reconstituted families.
Sources: CHS-91, IHS-92, HSS-92

The multiple-family household, as frequent as 27% among the Inuit and the Cree, was non-existent in southern Quebec. Single-parent families were extremely rare in the Cree population, but were twice as common in the Inuit of Nunavik than in southern Quebec. Compared with a rate of only 37% of Quebec households, more than four in five households in northern Quebec had children under the age of 18.

Health-related behaviours

Cigarette smoking is probably the behaviour having the greatest consequences in terms of cardiovascular and respiratory morbidity and mortality.[14] The prevalence of regular smoking in Inuit women was more than twice that of Cree and southern Quebec women aged 15 and over (Table III). The proportion of these smokers who had more than 10 cigarettes per day, however, was much higher in southern Quebec women (73%) than in Inuit (49%) and Cree women (20%). Smoking behaviours were also very different across age groups (Figure 1). While in Cree and Inuit women the prevalence of regular smoking was inversely proportional to age, it was highest in southern Quebec in the 25-44 age group.

Patterns of alcohol consumption in Aboriginal women differed considerably from those of southern Quebec women. Approximately 75% of the latter had drunk alcohol in the preceding year, while about half of women in Nunavik and 42% of those in James Bay had done so. Moreover, more than 20% of northern Aboriginal women were former drinkers, compared to less than 5% of southern Quebec women. On the other hand, among northern Aboriginal women current drinkers, close to two thirds had had an average of five drinks or more on the days they consumed alcohol, as compared to 42% of southern women.

The proportion of Inuit women having used illicit drugs at least once in the prior

TABLE III
Selected Lifestyles and Cardiovascular Risk Factors Among Cree, Inuit and Southern Quebec Women, 15 Years and Over

	Cree %	Inuit %	Southern Quebec %
Cigarette smoking			
Regular smoker	37.0	70.9	28.8
>10 cigarettes per day	19.5	49.1	73.3
Occasional smoker	12.0	5.8	4.0
Former smoker	38.5	14.2	31.7
Lifetime abstinent	12.5	9.1	35.5
Alcohol consumption			
Current drinker*	41.5	52.0	74.8
≥5 drinks per day	58.3	61.3	42.4
Former drinker	29.3	21.0	4.8
Lifetime abstinent	29.2	27.1	20.4
Drug use in the prior year	10.9	34.5	11
Physical inactivity	54.3	47.9	26.4
Excess weight (BMI ≥ 30)†	56.9	23.9	12.9
High cholesterol (total cholesterol ≥ 6,2 mmol/L)†	5.1	14.6	17.7
High blood pressure (DBP ≥ 90 mm Hg)†	12.8	4.8	12.8
High blood glucose level (≥ 7,8 mmol/L)†	8.3	2.4	N/A‡

Abbreviations : DBP=diastolic blood pressure; BMI=body mass index
* Over the year preceding the survey
† 18-74 years of age
‡ Glycaemia was not measured among the Southern Quebec population
Sources: CHS-91, IHS-92, HHS-90, QHS-87, HSS-92

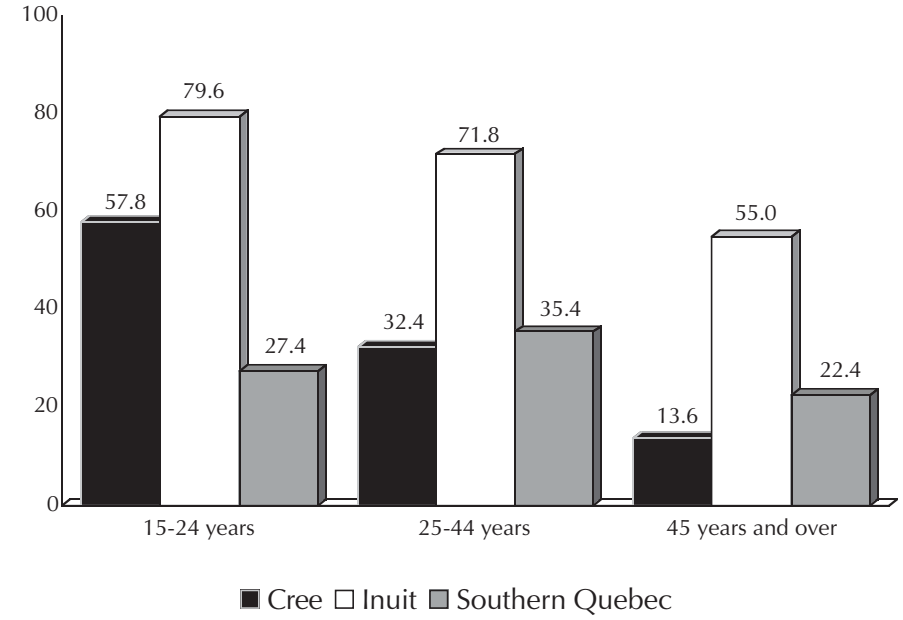

Figure 1. Regular smoking by age among Cree, Inuit and Southern Quebec women, 15 years and over
Sources: CHS-91, IHS-92, HSS-92

year (almost 35%) was three times higher than among Cree and southern women. Marijuana and hashish were by far the most popular drugs.

Physical activity is also an important health determinant. It seems that about half of Aboriginal women (versus 26% in southern Quebec) had not participated in at least one moderate-to-intense leisure-time physical activity of at least 20 minutes duration in the three months preceding the survey.

Other cardiovascular risk factors

Apart from the preceding, several factors have been identified in epidemiological studies as being major risk factors of cardiovascular disease.[15-18]

Excess weight is believed to be an important problem in Aboriginal women.[19] Obesity was defined using the body mass index (BMI), which is the ratio of body weight (kg) to height (m) squared. An individual with a BMI greater or equal to 30 was considered obese. The prevalence of obesity in Cree women was twice that of Inuit women and more than four times that of southern Quebec women.

Hypercholesterolemia, defined as a serum level of total cholesterol greater or equal to 6.2 mmol/L, characterized only 5% of Cree women. It was more than three times more frequent in Inuit and southern Quebec women.

High blood pressure, defined as diastolic pressure greater or equal to 90 mm Hg or being treated for this condition, affected fewer Inuit women (5%) than Cree and southern Quebec women (13% each).

Individuals with blood glucose levels greater than or equal to 7.8 mmol/L may be considered diabetic. Cree women showed a higher prevalence of elevated blood glucose levels (8%) than Inuit women (2%). When pharmacological treatment with insulin or oral hypoglycemic agents declared by the respondent was included in the definition, diabetes rates increased to 11% in Cree and 4% in Inuit women (data not shown). No clinical measures of blood glucose levels were available for southern Quebec women.

Women's preventive health practices

Despite their known benefits,[20,21] preventive health behaviours in women are not widely practiced. More Inuit and southern Quebec women aged 15 and over had had a PAP test in the two years preceding the survey than had Cree women (Figure 2). Both breast examination by a professional and breast self-examination were more prevalent among women in southern Quebec than among northern Aboriginal women. On the other hand, close to 65% of Cree and 50% of Inuit mothers declared having breastfed their last child, while in southern Quebec in 1987, only 26% of mothers declared having done so.

Physical and mental health

The perception people have of their health is linked to self-reported symptoms,

chronic conditions or restrictions of activity.[22] Overall, Cree women perceived their health as being good or very good in a much higher proportion than did Inuit women (Table IV). Response categories in the southern Quebec survey were not comparable in this respect.

Significant differences could be found among the three populations with regard to the most frequently reported health problems. For instance, 7% and 11% of Cree and Inuit women respectively declared having hearing-related problems, whereas this condition was almost nonexistent in southern Quebec women. Mental disorders, relatively frequent among Inuit and southern Quebec women, were rarely reported by Cree women. Other common health problems included headaches, with a slightly higher prevalence in southern Quebec, and arthritis, of which the prevalence in southern women was twice to three times that of northern Aboriginal women.

Psychological distress was measured using an index derived from the Psychiatric Symptoms Index.[23] The measure, validated for the QHS-87, identified any value above the 80th percentile of the total distribution as a high level of psychological distress. More southern Quebec women displayed high levels of psychological distress than did Inuit and Cree women. High psychological distress was much more prevalent in women aged less than 25 than among older women in all three populations.

Both lifetime suicidal thoughts and attempts were more frequently reported among Inuit than among Cree and southern Quebec women. Over 14% of Inuit women reported having seriously thought about committing suicide and the same percent reported having attempted suicide. These figures were much higher than those of Cree and southern Quebec women. Differences remained statistically significant, even after controlling for age.[9]

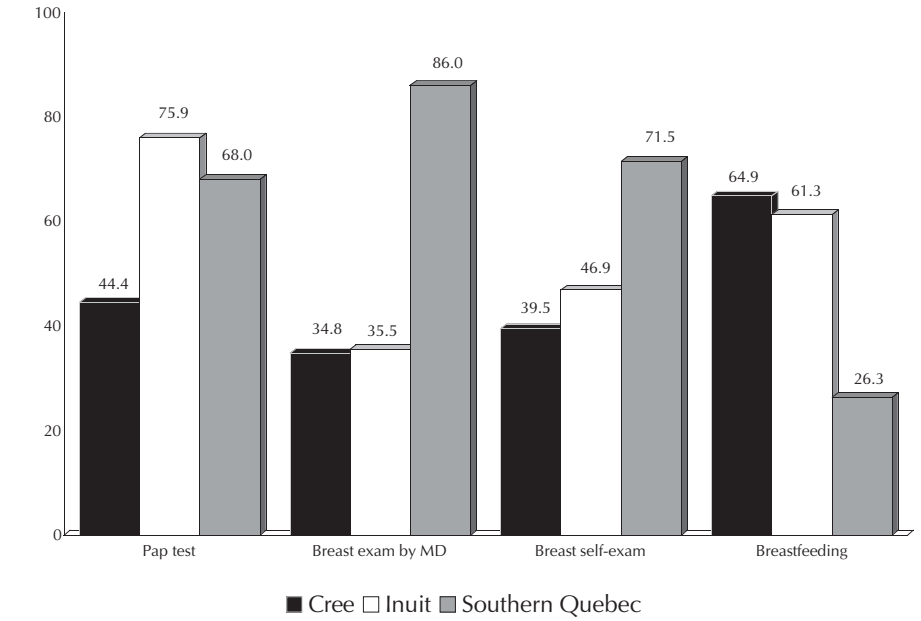

Figure 2. Preventive health practices among Cree, Inuit and Southern Quebec women, 15 years and over

Sources: CHS-91, IHS-92, HSS-92, QHS-87

TABLE IV
Indicators of Physical and Mental Health Among Cree, Inuit and Southern Quebec Women, 15 Years and Over

	Cree %	Inuit %	Southern Quebec %
Physical health			
Good / excellent perceived health	76.4	48.9	N/A*
Reported health problems			
Hearing-related problems	6.5	10.7	0.8
Mental disorders	2.4	12.6	11.6
Headaches	9.4	11.1	14.3
Arthritis / rheumatism	7.6	4.8	15.4
Mental health			
High level of psychological distress			
15-24 years	32.5	38.4	40.8
25 and over	14.0	17.4	28.4
Total	21.0	25.5	30.4
Lifetime suicidal thoughts	5.3	13.9	8.4
Lifetime suicide attempts	4.9	14.4	4.5

* The wording used in the southern Quebec surveys was not comparable to that used in northern surveys

Sources: CHS-91, IHS-92, QHS-87, HSS-92

DISCUSSION

General health surveys have been shown to provide useful data for developing public policy and targeting health promotion programs. However, such surveys also have inherent limitations. Despite multiple efforts directed at validation procedures in all phases of the surveys, various data inconsistencies and biases may have affected the accuracy of the information collected. For instance, the respondents' knowledge and understanding of the health of other household members may not be fully known or understood. Also, the sensitive nature of some questions may have led to a social desirability bias. In addition, important health determinants such as socioeconomic status and access to care could not be documented. Finally, certain prevalence figures such as blood glucose levels and high blood pressure could not be stratified according to factors such as age due to the small numbers, which may explain some of the variation observed.

Differences in the cultural and physical environments of the three populations may have induced slight variations in the understanding of the terminology being used. Data related to physical activity, for

example, are unfortunately hardly comparable in the three populations. The concept of leisure-time activity is not yet part of Aboriginal women's daily lives. Also, the differences observed in women's preventive measures may be linked to their availability. Lastly, our study shows very different drinking patterns in the three populations, with fewer Aboriginal women drinking, but drinking greater quantities per occasion. However, alcohol consumption in northern Quebec is forbidden in a number of communities, and remains socially reprehensible. Therefore, respondents may have been less inclined to drink socially and/or admit their true alcohol use in a survey, despite the use of confidential questionnaires.

In accordance with the findings of other descriptive studies of the health of Aboriginal people,[24-28] we identified similarities as well as significant differences between Cree and Inuit women and with the rest of the female population. The information presented here can help decision-makers and caregivers further understand these women's health issues and assist in the planning of highly focussed interventions targeting their specific needs. However, Aboriginal women should first be invited to set their own priorities.

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