



COUNTRY AND MARKET FOOD CONSUMPTION AND NUTRITIONAL STATUS

QANUILIRPITAA ? 2017

Nunavik Inuit Health Survey

Inuit country foods are traditional foods that are hunted, fished and gathered from the land. They consist of locally or regionally harvested marine and terrestrial wildlife, fish and plants. Traditional food systems play a key role in the culture of Nunavimmiut. Hunting and food preparation are opportunities to pass on Inuit *Qaujimagatuqangit* (traditional knowledge), which is a central pillar of Inuit culture. When young hunters learn how to support themselves on the land, they also learn about Arctic environments and the roles that animals play in their lives. Country food sharing is an important cultural and historical practice that supports those who might otherwise have insufficient access to food. Country food is also crucial for Inuit nutrition, health and wellness and contributes to the self-sufficiency of Inuit communities.

Data from the previous health surveys conducted in Nunavik pointed out to a decline in the consumption of country foods between 1992 and 2004. For example, the consumption of country meats (i.e., marine

mammals, fish, shellfish, land mammals and wild birds) among women¹ was lower in 2004 (5.2 times/week) than in 1992 (8.2 times/week). Again among women, the mean consumption frequency of foods such as caribou, wild birds (generally ptarmigan and geese), Arctic char, and beluga *mattaaq* (skin and blubber (*ursuk*)) and, to a lesser extent, seal meat was lower in 2004 than in 1992. Moreover, in 2004, country food intake was consistently higher in older Inuit and those who participated regularly in traditional activities. Country food intake was also higher in men and among Inuit living in communities in the Hudson Bay and Hudson Strait ecological regions as compared to people living in communities in Ungava Bay. Population growth and the decline of certain staple species such as caribou continue to put pressure on the traditional food system. Climate change is also introducing challenges to the consumption of country foods and the health of Inuit by impacting the availability, accessibility and quality of these important foods. Furthermore, declines in country

1. Comparisons between 2004 and 1992 were made among women only since in 1992, the food frequency questionnaire was not completed by men.

food consumption may be partially fueled by concerns over contaminant burdens, despite public health advisories stressing the importance of balancing nutritional benefits with the risks of contaminants. In *Qanuippitaa?* 2004, the most commonly reported market foods consumed were sweets, soft drinks, white bread, fruit juice, milk, tea and coffee. In 2004, Nunavimmiut met only one of the recommendations in Canada's Food Guide for First Nations, Inuit, and Métis, namely, that concerning meat and alternatives (Health Canada, 2007). Intakes of milk and alternatives, vegetables and fruit and whole grain products were reported to be low, while intakes of sweet foods and drinks were high and store-bought food represented 84% of daily energy.

The first objective of this report is to describe the consumption frequency of country and store-bought market foods during the three months prior to data collection in the *Qanuillirpitaa?* survey, which took place in late summer and early fall of 2017. The frequency is described according to: age, sex, ecological region, community size, income, education, marital status, employment status and food security, as well as whether or not the individuals surveyed had taken part in traditional activities or had gone on the land. Country and market food consumption in 2017 is also described in comparison to the *Nunavik Food Guide* and the *Qanuippitaa?* 2004 food consumption data. The second objective is to describe the nutritional status of Nunavimmiut using nutritional biomarkers. Biomarker levels in 2017 are presented according to selected socio-demographic characteristics and the consumption of key country and market foods. When possible, these levels are compared to those of 2004.

The country foods eaten most frequently in 2017 were caribou meat (2.2 times/week) and fish (2.2 times/week), with Arctic char and fish *pitsik* (dried fish) being the most commonly reported foods (0.8 and 0.6 times/week respectively), followed

by wild berries (1.1 times/week) and *suuvalik* or *uarutilik* (berry-based recipes) (0.7 times/week), wild birds (0.8 times/week) and beluga meat (0.7 times/week). Many country foods were eaten more often by men, although wild berries and *suuvalik/uarutilik* were reportedly consumed more frequently by women. Interestingly, younger Nunavimmiut (16-29 years of age) said that they consumed several country foods more often than older Nunavimmiut, including caribou, beluga meat, beluga *mattaq*, goose and *suuvalik/uarutilik*. Beluga was more frequently consumed in the Hudson Strait region, whereas caribou was consumed more frequently in Hudson Bay and Hudson Strait communities. Country foods represented a significant proportion of some of the food groups in the *Nunavik Food Guide*: about one third (up to 38%) of meat, fish and alternatives and one sixth (16%) of vegetables, berries and fruit groups. Finally, there are no indications that country food consumption had declined between 2004 and 2017, in fact, most country foods were reported being consumed at a higher frequency in 2017. However, these results must be interpreted with caution as the food questionnaires used in the two surveys differed from one another.

The market foods eaten most frequently on a daily basis were beverages (sweet and hot), grains, meats and alternatives, vegetables and fruit, milk products and fast food. Refined grains were consumed more frequently than whole grains. The majority of the population reported consuming red meats daily, whereas eggs were reportedly consumed two to three times per week and poultry, canned fish, and legumes about once per week.

The prevalence of vitamin D deficiency and insufficiency was elevated among Nunavimmiut in 2017 (7% and 23%, respectively; total 30%), but similar to that observed among the general Canadian population (total 32%). Around 5% of Nunavimmiut experienced vitamin B12 insufficiency (borderline deficiency) and the prevalence was higher in men than in

women (7% vs. 4%). That being said, fewer than 1% of Nunavimmiut had vitamin B12 deficiency. Vitamin A deficiency was also quite rare (<1%). Although folate deficiency was rare (<1%) as well, 92% of Nunavik women of childbearing age exhibited folate concentrations below the optimal value for that age group, compared to 22% of women of childbearing age in the rest of Canada.

Country foods are a good source of long-chain omega-3 polyunsaturated fatty acids (n-3 PUFA), selenium and several vitamins. The content of n-3 PUFA concentrations in red blood cells had decreased in 2017 compared to 2004, whereas blood selenium concentrations had remained similar. In 2017, omega-3 fatty acids, vitamin A, folate, vitamin B12, vitamin D, vitamin E and selenium concentrations were all positively associated with the consumption of several country foods, particularly those of marine origin. Vitamin A was also associated with the consumption of eggs from the market. As for folate concentrations, no meaningful associations were observed. The status of vitamin D was associated with the consumption of grains and margarine, whereas that of vitamin E was associated with the consumption of vegetables, eggs from the market, legumes, nuts and butter. Beta-carotene, whose status was very low in 2017, was associated with the consumption of vegetables, fruits,

legumes, nuts, dairy products and butter. Interestingly, no market foods were associated with vitamin B12, n-3 PUFA and selenium concentrations. Globally, these findings highlight the unique contribution of several country foods and healthy market foods to the nutritional status of Nunavimmiut.

More in-depth analyses are needed to further identify the multiple determinants of country and market food consumption, food consumption profiles and optimal nutritional status as well as the association between diet, nutritional biomarkers and health outcomes in Nunavik. Meanwhile, the core findings of this report highlight the fact that country foods remain central to the diet of Nunavimmiut, most likely thanks to the many efforts in the region to promote traditional activities and the transmission of Inuit knowledge to younger generations. These findings also support the importance of global and local initiatives to promote the consumption of country foods and healthier markets foods and to thereby improve nutritional status, especially vitamin D status, among all Nunavimmiut and folate status among childbearing women.



Qanuillirpitaa? 2017 is a population health survey carried out in Nunavik from August to October 2017. A total of 1 326 Nunavimmiut aged 16 and over from all 14 villages participated to this survey.

Nakurmiik to all Nunavimmiut who contributed to this important health survey!

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