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Let's learn about our land Let's learn about ourselves

Popular Report for the Cree Nation of Wemindji





Multi-Community Environment and Health Project in liyiyiu Aschii

About the Project

liyiyiuch know that the land, water, and animals are closely tied to their well-being. *Nituuchischaayihtitaau Aschii* is a project to study the links between people's health, the kinds of food they eat, and the contaminants in the environment.

Many of the traditional liviyiu foods are healthy but, these days, some fish and animals may be contaminated with harmful chemicals. Also, some germs can be passed from animals to the humans.

We need to know whether the benefits of eating traditional food outweigh the risks.

To find out, the project asked five questions:

1. Nutrition: What kinds of food are of foods are people eating in liviyiu Aschii? What nutrients are people getting from traditional foods?

2. Contaminants: What contaminants are found in people's bodies?

3. Water Qualtiy: Is the water from natural sources safe to drink?

4. Zoonoses: How many people have caught infections from animals?

5. General Health: Do people have health problems that might be linked to their food choices and to contaminants?



Local residents joined the project team in Wemindji to recruit and interview participants

The project is funded by Niskamoon under the 2001 Mercury Agreement between the Crees and Hydro-Québec. It will visit all 9 liyiyiu communities between 2005 and 2011.



The community of Wemindji was visited in June 2007 and 200 people, including babies, children, adults and elders, participated in the study. Participants gave samples of their hair, nails and blood to be tested for contaminants. They also did clinical tests to check their weight and blood pressure, and answered questionnaires about their health, nutrition and activities.

Educational Activities



35 kids had the chance to learn about science by touring the Atlantis Lab.

Conclusions

People do have some traces of contaminants in their bodies, but this is not a major health concern in Wemindji right now.

However, development projects in liyiyiu Aschii will continue to impact the environment. Therefore, it is important to keep checking the levels of contaminants in the environment and in people's bodies to make sure that they do not reach levels that could impact our health.

Being overweight, eating unhealthy food, and lacking physical activity are bigger health problems than contamination.

Traditional food remains a healthy choice compared to market food with high fat and sugar content.

The priorities for health promotion in Wemindji are:

Do not smoke

Be active by walking, doing physical work, and playing sports.

Eat foods high in vitamins like fruits and vegetables

Cut back on store-bought foods with high fat and sugar

Keep eating traditional foods as they are healthy

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1. Nutrition

Traditional foods such as game, fish, fowl and berries are healthy. They are low in fat and high in some vitamins and minerals that help protect against illness. Moose, rabbit, goose, ptarmigan are the most common traditional foods eaten in Wemindji. On average, people eat each of these foods at least once a month.



As in Mistissini and Eastmain, people over 40 years of age eat traditional foods more often than people aged 18-39, and children eat the least amount of traditional food.

People in Wemindji get enough protein and carbohydrates in their diets. However, adults and boys aged 9-18 tend to eat too much fat, saturated fat, and cholesterol

People eat more than the number of servings of meat recommended by the Canadian food guide. Therefore they get plenty of zinc and iron. However, people eat fewer fruits, vegetables, and milk products than recommended. This leads to low levels of calcium, magnesium and some vitamins

Men, Women, and Children get about 10% of their daily calories from drinking pop and other sweet drinks (not including fruit juice). The extra calories and sugar contribute to being overweight and lead to diseases like diabetes.

2. Contaminants

Contaminants are chemicals like mercury and pesticides that can be harmful to our health.

Some contaminants are released into the environment by industries in the South and carried north by the wind and rain. Mercury is present naturally in the soil, but developments such as hydroelectric dams and forestry cause mercury to move from the soil into lakes and rivers, where it is absorbed by plants and tiny animals. Contaminants travel up the food chain and accumulate in the fish and animals that we eat.

Our bodies can tolerate a small amount of contaminants, but too much is toxic to our health. Babies, children and pregnant women are especially vulnerable.

The project tested for Mercury, Lead, Cadmium, Selenium, PCBs and other Organic Contaminants, such as pesticides and fire retardants

Fortunately, most people in Wemindji have only small amounts of these chemicals in their blood. Women of childbearing age and children had safe levels of all the contaminants tested. Older people who have eaten a lot of fish and game in their lifetime tend to have higher levels of Mercury, Lead and other contaminants, but not enough to be dangerous to their health.

In fact, the mercury levels detected in Wemindji and Eastmain in 2007 and in Mistissini in 2005 are lower than they were in the 1970s.

The only contaminant that is cause for concern is Cadmium, a chemical that affects kidney health. The people with high Cadmium levels were mostly smokers under 40 years of age. This suggests that cigarettes, and not traditional food, are the main source of this contaminant in Wemindji.



Samples were prepared in the Atlantis Laboratory and then sent to Southern Quebec for analysis. The results about other contaminants and PCBs are not yet available at this time.

3. Water Quality

The research team interviewed 56 people about their water consumption habits and tested natural sources at Km 5, Km 12, Km 34, and Km 60 for germs. 40% of participants used water from natural sources in their homes sometimes or all of the time. Most people used water from the source at km 5.

The study found that water at km 12 was cleanest on the days tested, while the water at km 5 had germs on all the days that it was tested.

However, some germs were present in all the natural sources, and in plastic water jugs in people's homes. These germs probably come from animals rather than humans, and it is normal to find them in natural surface sources. However, people could possibly get sick when drinking water from these sources.

To be safe, water from natural sources should be boiled for at least 1 minute to kill the germs



4. Zoonoses

Zoonoses are bacteria, germs and viruses that people can catch from animals. Hunters and trappers who come into contact with wild animals may be at risk.

When we come into contact with zoonoses, our bodies make antibodies to fight infection. These antibodies stay in our blood for years and can be detected with a blood test.

The study found some traces of past infection by zoonoses, but no lasting impact on people's health. This probably means that **hunters and trappers have safe practices for handling animals.**

A local group like the CTA could tell hunters and trappers what symptoms to look out for. Health care workers should also be informed about the symptoms of these illnesses

5. General Health

Some health problems are linked to people's eating habits and contaminants. These include thyroid problems, heart disease and diabetes.

Risk Factors for Heart Disease

Weight

- 91% of participants were overweight
- 68% can be considered obese.

Blood pressure

17% had high blood pressure.

Cholesterol and fats

- 35% of the participants had low levels of "good" Low-Density cholesterol compared to the "bad" High-Density cholesterol.
- 27% had high triglycerides, another kind of unhealthy fat.

Diabetes

- 13% of participants had fasting blood sugar levels that indicate undiagnosed or improperly managed diabetes. Another 22% are considered at risk for diabetes.
- The rate of diabetes is 3 times higher in Wemindji than in the rest of Canada. Similar results have been observed in Mistissini.

To reduce chances of getting diabetes and heart disease, people need to eat less foods high in cholesterol, fat, and sugar, and to be more physically active.



Traditional foods such as game, fish, fowl and berries are healthy.