

THE NQN PROJECT

The NQN project was carried out in 2016-2017 in collaboration with 97 pregnant women in Nunavik, the Nunavik Nutrition and Health Committee, and several regional organizations. We studied the multiple nutritional benefits of eating country foods and the exposure to different contaminants with the overall goal to promote healthy pregnancies and healthy child development in the communities of Nunavik and other circumpolar regions.



QUESTIONS? COMMENTS?

Get in touch with us!



Mélanie Lemire

Littoral - Sentinel North Partnership Research Chair in Ecosystem Approaches to Health, Laval University melanie.lemire@crchudequebec.ulaval.ca 418-866-1138





PREGNANCY WELLNESS WITH COUNTRY FOODS

Summary of results from the Nutaratsaliit qanuingisiarningit niqituinnanut (NQN) project



COUNTRY FOOD

Country foods are known to play a key role in a healthy diet. The nutritional and cultural benefits of country foods are very important for healthy pregnancies and babies. Our results show that **blood levels of good fats** (omega-3), iron, and selenium were higher in pregnant women who reported frequently eating country foods.



Enjoy country foods as much as possible! Remember that almost all country foods have low levels of mercury except beluga meat and nikku, seal liver and big lake trout (manarsuk).

MERCURY

ÓÓÓÓÓÓÓÓÓÓ 23% EXCEED GUIDELINES



Mercury levels in pregnant women have been decreasing. However, 23% of women in this study had mercury levels in their blood above the Health Canada recommended value. Our results also show that mercury levels in pregnant women were higher during summer and fall due to the increased consumption of beluga meat, particularly beluga nikku. It is better to avoid beluga meat as much as possible during pregnancy, as it is high in mercury. This helps to protect the development of the baby's and infant's brain.



Our team strongly advocates against the use and emissions of mercury and PFAAs at the national and international level to protect the exceptional quality of country foods. Our aim is to provide information to help pregnant women to make their own choices, safely eat country foods and ensure the health of their babies.

PERSISTENT ORGANIC POLLUTANTS (POPS)

Exposure to older persistent organic pollutants (POPs) like PCBs continues to decrease in pregnant women and Arctic wildlife. Over the past 30 years, more than 3000 Nunavimmiut have participated in studies on contaminants. This information was used by the Inuit Circumpolar Council, the Government of Canada and other organizations to advocate for a global ban on the production and use of POPs. Nunavimmiut who participated in these studies directly helped to reduce POPs exposure in the Arctic and worldwide!



Contrary to POPs, chemicals like long-chain PFAAs (fluorinated compounds) have increased since 2011. We found that the **levels of PFAAs in the blood of pregnant women in Nunavik were two times higher than in the blood of pregnant women in southern Canada**. Higher levels of PFAAs were associated with marine country food consumption. PFAAs may also come from the packaging of market foods or other consumer goods. More research is needed to find out where they come from and how they affect the health of Nunavimmiut.

LEAD

ÅÅÅÅÅÅÅÅÅÅÅÅÅ 5% EXCEED GUIDELINES





ÖÐÐÐÐÐÐÐÐÐ 71% DIDN'T HAVE ENOUGH TO EAT

Having enough food to eat is very important for the health of the mothers and their babies. Improving access to both country and healthy market foods is important to strengthen food security. In our study, **many pregnant women reported not having enough food to eat (71%).**



Invite a pregnant woman when you have country foods at home so that she can enjoy a meal with you - for her health and the health of her baby!

IRON & ANEMIA





Country foods are excellent sources of iron, which is also very important for health. A lack of iron can lead to anemia, which decreases the capacity of the blood cells to transport oxygen to different parts of the body. This can cause weakness and impair the development of the baby and infant. In our study, **79% of pregnant women were** found to lack iron in their blood, and **37% were** identified as having anemia. To increase blood iron levels and prevent anemia, enjoy country foods or market foods rich in iron such as red meat, clams, green leafy vegetables, beans, and nuts.



All pregnant women in Nunavik can have access to coupons to buy healthy store-bought food. Ask your midwife or nurse about them.



ΝΩΝ ΛαΖϤͿ^ϲϧϣϥϹϷΓϤ_εΡ

σ[٬]β[٬]γαϽ_νσ[٬]σ[٬] δΠL²[٬][٬]σ[,] αΓλσ Δαςς Light ∧«∽⊂،۹۵⊳, م. ۵.۵۵, م. ۵.۵۵, م. ۵.۵۲ م. ۵.۵۲ م. ۵.۵۲ م. ^ᡪd[<]«ᡅ᠋᠋᠋ᢉ᠘ᡀ᠆ᡆᢑᡄᠴᢗᡶ᠋ᡕ᠈᠋ᢩᡆᡄ᠘ᢓᡕ᠋ Λ^{2}^{C}

۸۵۲۹۵⁻۲۹۲۵ Δ۲۹۶۵ Δ۲۹۶۹ Δ۲۹۶۹ Δ۲۹۶۹ Δ۲۹۶۹ Δ۲۹۶۹





Sentinelle Nord



ΔϲϞͼϷϹͷϞϷϞͼϷϷϯͼϷͽϥϷͼϲͼϷͽϽͽͽϧϧ ^۱۵۵۲۹۹^۲ ۵۲۹۹^۲ ۵۲۹۹^۲ ^۲۵۵۹۹ ^۲۵۵۹ melanie.lemire@crchudequebec.ulaval.ca 418-866-1138

۲۹ م م ۲۹





ͻϹϚʹϞͽϧ

ᠴᢗᠲ^ᢈᢣᡄ^ᡕᠳᡅ᠘ᢩ᠉ᡥ᠘ᡆ᠖᠉ᡨ᠘ σˤΡϽΔͼϼϲ $\Lambda_{a} = \Lambda_{c} = \Lambda_{c} = \Lambda_{c}$

᠋᠂ᠳ᠘᠊᠋ᢁᢅ᠆᠘᠆ᡣ᠉ᢁ᠘ᡆ᠘ ᠳ᠋᠋ᡗ᠘ᡱᡆ᠋᠋ᠫ᠋᠂ᠳ᠘᠘ᢑ



Δ⁶**bbbch**^c**?**

⊳⊲د∪مه ^sb_s^jΔ^sb^cbσd_c^c!

σˤΡϽΔ°᠊ͽ^ϲ

ϭ·ϳϷϽΔ΅Ϟ·ʹ·ϧϷϷͰϧϷϲ·ͻϽ·ʹϧϿϪ·ͽϓϒϤͶ·ϒϟͿͰͰϹͺϭ·ϳϷϲϟϤϧϷϭ·ΓϿͼ Δϲ·ϳϞϒͼϒϫϣͼϒϷϫϿϫͺͶͼʹ·ϲʹϾϭϲϲϟͼϒϲͼͼϔϷϽϪ΅ͼ·ͶͱϲϫϷͱͰϹ ϼϹϚ;ϚϧϾͱϟϥϭ·ʹͽͼͺͶϥϚϲϷϲ;ϟϥϭ·ʹͽϿϫͺϧʹ;ϥϷ;ϫϾϲϤͼϞϷͶͼϟͰϹ ϤϷͱͳͿ·Ϸ;ϟϟϥϲϞϧ;ͽͰϥϭʹϔϷʹͽϲͺ(ϷͳϷ·3ϭϲʹ), ϷϷϥͼϞϧ;ϭͻ, ϟϲϭϥͱϲϲϽ;ͽͼϲϭϣʹϷϫϿϫϲϚͼϞϲͼϭ;ϷϽϪʹϫϽͶϲϟϳϭϲ;ͻϪϭͼͽϲ.



σ⁵ΡϽΔ⁶ ۵Ͻ⁵Ϸ^CϹ^C ΛΛ⁻ĹŊ^C! Δ⁵⁵ϷL^C σ⁵ΡϽΔ⁶ α⁻ĹϷϞ^CィϤ^c ⅃ⅆኪኪ^cϽͻ⁶Υ^LLC ⁵Ρ من المرابع من المرابع من المرابع Δ μο Γ⁻ Δ² (مرابع من المرابع من المرابع المرابع

F

երբ



Δ
Δ

Δ

C
S
S
S
S
S
S
S
S
S
S
S
S
S
S
S
S
S
S
S
S
S
S
S
S
S
S
S
S
S
S
S
S
S
S
S
S
S
S
S
S
S
S
S
S
S
S
S
S
S
S
S
S
S
S
S
S
S
S
S
S
S
S
S
S
S
S
S
S
S
S
S
S
S
S
S
S
S
S
S
S
S
S
S
S
S
S
S
S
S
S
S
S
S
S
S
S
S
S
S
S
S
S
S
S
S
S
S
S
S
S
S
S
S
S
S
S
S
S
S
S
S
S
S
S
S
S
S
S
S
S
S
S
S
S
S
S
S
S
S
S
S
S
S
S
S
S
S
S
S
S
S
S
S
S
S
S
S
S
S
S
S
S
S
S
S
S
S
S
S
S
S
S
S
S
S
S
S
S
S
S
S
S
S
S
S
S
S
S
S
S
S
S
S
S
S
S
S
S
S
S
S
S
S
S
S
S
S
S
S
S
S
S
S
S
S
S
S
S
S
S
S
S



boc Cibio 5 is Jin C Porsis DC Point Citered Service Contract Contract Citered Service Contract Citered Service Contract Citered Service Citered Service Contract Citered Service Contract Citered Service Cit



└ᡂᡆᠳ ᢣᡧᠮᠮᡖᡃᡐᡧᡗᡝᠫᡩᢩᢂ᠋ᡇᡗᡅᡬᠯ᠖᠘ᢪᡊ᠅᠋ᢗᠺ᠋ᠳᡐᡧᡗᡶᢗᡃ᠙ᠮᡘᡘᢌ (ᡷ᠍ᠴᡆᢄᠧᡩ) ᢄᢧ᠋ᡗᢣᢤᡏ᠘᠆ᠮᠫᢗ᠌2011ᡗᠳᢗ᠂ᡡᠺᠻ᠘ᡄᢗᡫ᠖ᠫᠳᡐᡥᢈ **PFAAs ᡆ᠔ᡗᡃᢣ᠌ᢣᡶᠣ᠋᠊᠋ᡗ᠋ᡗᡄ᠆ᡗᠴ᠘᠋ᡗ᠋ᡘ᠋᠋᠋ᡘ᠆ᡘᡆᡘᡆᢄ᠋ᡘᢋ᠋ᡘ ᢧᢗᡗ᠋᠋ᢏᡃᡄ᠋᠘᠋ᡬᡘᡘᠮᡬ᠋ᢏ᠘ᡦᠺᡬᡬ᠖ᡬᢕᡘᡠᡄ᠋ᡗᢪᡘᠥᢋᡀᠥᡛᡄ᠖ᡓᢕᡐ ᢧᢒᠬ᠘ᢣᡶᠧ᠋ᡔᠺᢗᡩᠺᡛᡏᡘᡘᢌ᠘᠆ᡐᡁᠺᡄᢗᢑᡬ᠕᠋ᡄᠮᠺᡏᢄᢣᢋ ᢐᠻᢓ᠘᠋ᢁᠴ᠘ᡀᠳᡥᢁᡗ᠊᠙ᠮᠺᡘᢌ᠋ᡬᠺᡩᡥᢁ᠊ᠦᢂᡘ᠋ᢗᠺᡘᠥᠶᡠ ᠺᡘ᠘ᠳᡆᡐᡚᡅᢣᢣᡶᠮᢤ᠂ᠮ᠔ᡄᢣᡬᢗᢈ᠌᠔ᠥᠬᡆᠮ᠖ᡊᢨᡓ᠋᠋ᡦᡝ᠖᠘᠌ᢩᡆ ᠮ᠔ᡋᡐᡐᢉ᠇ᡶᡆᠮᢌ᠊ᡐᡗᡢ᠘ᡗᡄᢄ**

Ϸ·ϭϥϽʹϽϹϲϲϟϲ ϧϧϭϲϒϷͼ



 >idl_C<i<</td>
 PPd<i>
 >idl
 idl
 idl
 >idl

٥٩̈̈́ĊكاتUলLo



₽₽₫^с\๖^₅₫Ľ_ ₫▷⁵_σ^{₅ь}

᠙᠙᠋᠋᠋᠆ᠴ᠋᠆ᠴ᠋᠆ᠴ᠘ᡃᠣᢄᠴ



 σ⁵PDΔ⁺ σ⁻ PPd⁻ Ch⁻ σ⁻ Ch⁻ Ch⁻ σ⁻ Ch⁻ C



ᠴᢗᡪ᠋᠊᠋ᡃᠢᡄ᠋ᡄᡄᢆᢁᡆᠺᡰ᠋ᡝ᠌ᢈ᠕᠆᠋ᢁ᠋ᡔ ᠣ᠌ᢂᡘᢪᡆ᠌᠌ᠵ᠋ᠺᠺᢦᢛ᠋᠂ᠳᠴᡘᢀᡨᡗᡟᡆᠮᡆ᠌ᢣᢦᢛ ᢦ᠕ᡕ᠋᠋ᠴ᠆ᡆ᠋᠘᠄᠊᠋᠘ᠮᠳ᠈ᡩᠥᠯᡘᡷ᠋ᢆᢦᡩ ᠕᠋᠋᠋᠋᠋ᡄᡄ

