Reviewer's report

Title: n3-fatty acid status as a marker of traditional food intake is associated with lower risk of iron depletion among food insecure Canadian Inuit women

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Reviewer: Aranka Anema

Reviewer's report:

Minor Essential Revisions

This manuscript represents an important contribution to nutrition and food security literature, and contributes novel insights into the relationship between iron depletion, traditional foods, and food security among Inuit women of childbearing age.

Co-authors of this manuscript represent a unique cross-disciplinary collaboration, which enriches both the methodological rigor of the study as well as the interpretation of findings within indigenous nutrition and environmental sciences.

The research question posed by authors was well defined. The nutritional methodology employed in this study is robust, elegantly described and offers a strong analytic platform from which to examine study objectives. The large sample size is noteworthy, enhancing the precision of inferential statistical. Description of methods and results are thorough.

Authors could consider implications of findings for Inuit populations with concurrent infectious diseases including HIV and HCV infection, which have shown to be elevated in northern Aboriginal populations and associated with adverse iron status.

Authors should consider elaborating on whether association between iron deficiency and food insecurity is due to food insufficiency or poor dietary quality, by drawing on available qualitative and quantitative literature. This would provide a more comprehensive context for discussion around the role of traditional foods in this population.

Discussion is lacking reflection about relevance of study findings for regional public health programming and policies. It would be beneficial for authors to expand on how existing public health, environmental nutritional supports to this community could enhance ongoing use, sustainability and education about the importance of traditional foods in this population.

Related to this, it authors may also consider making linkages between this research and similar research performed among indigenous populations internationally.
**Level of interest:** An exceptional article

**Quality of written English:** Acceptable

**Statistical review:** Yes, but I do not feel adequately qualified to assess the statistics.

**Declaration of competing interests:**

I declare that I have no competing interests