Author's response to reviews

Title: Higher n3-fatty acid status is associated with lower risk of iron depletion among food insecure Canadian Inuit women

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Response to Reviewers

Re: Higher n3-fatty acid status is associated with lower risk of iron depletion among food insecure Canadian Inuit women

Dear Dr. Lawrence and Mr. Dizon,

We thank the reviewer for her thoughtful suggestions. Below, we outline each concern and note our revisions. We believe the revisions have improved the quality of the manuscript.

Reviewer's report:
The article is much improved however a significant flaw remains. Authors can’t center their discussion on obesity, inflammation and iron deficiency when their results suggest that both, at risk % body fat and inflammation protect from iron deficiency. These findings are opposite of that reported in the literature. However, is this a result of the marine and LCPUFA intake? If so, authors should perform a analysis to assess this. Also check coding to be sure descending order was selected in the logistic modeling.

Response:
We have addressed this concern with additional analyses (Table 4) and discussion. Although the LC-PUFA is not statistically different between obese and non-obese with multivariate adjustments, there is a trend toward higher n3 status among the obese in those regions with higher n3 intakes. The cross-sectional nature of the survey and the complex relationships between declining traditional food intake and emerging obesity in this population limit our ability to explain this finding. Further research to investigate the relationship between adiposity, obesity and inflammation in this population is needed.

Specific comments:
Introduction:
Line 72. Reference original research articles reporting these outcomes and not a review paper. However, the review paper does include the references the authors need.

Original articles are now referenced.

Delete lines 79-81 pertaining to men.
This reference was removed as requested.

Thank you for your time and consideration.
Sincerely,
Jennifer Jamieson, PhD
On behalf of all authors.