Reviewer's report

Title: Dietary Correlates of an at-risk BMI Among Inuit Adults in the Canadian High Arctic: Cross-Sectional International Polar Year Inuit Health Survey, 2007-2008.

Version: 1 Date: 9 March 2012

Reviewer: Katia Castetbon

Reviewer's report:

The article aims at estimating cross-sectional relations between diet (according to various indicators) and at-risk BMI in adults living in the Canadian High Arctic in 2007-2008. Overall, the findings are interesting, the paper is well-written, statistics and comments look appropriate. Authors will find enclosed revisions suggested to improve the manuscript quality.

- Major Compulsory Revisions

1- The precise objective of the paper is missing in the Introduction. Also add the cross-sectional scheme in the objective.

2- Process of recruitment is very unclear: random selection of numbers (of what? How many?), number of inclusions/refusals/eligible persons, participation rates, how many persons included in each household, how inclusion scheme was taken into account in analyses… This part undoubtedly needs to be completed in Methods and Results section, and to be discussed.

3- Has the IPAQ translated version been validated? Why the recommended IPAQ classification was not used in analyses? Add information about codification and use of IPAQ data.

4- About the 24-h recall: Last paragraph of the page 2 is not convincing (errors of measurement are still high) and not needed in this paper. If a validation study has been carried out between the FFQ and 24-h recall, it should be presented as a whole paper. However, some information could be useful: how the food list was adapted to the Artic habits? What nutrient content table was used? How extreme values of energy intake (or anything else as aberrant in the 24-h recalls) were checked and managed? What was the quality control process?

5- A lot of information regarding Methods (and somehow secondary objectives) are presented in the Results section, which is not appropriate. It is particularly true for the adapted version of HEI. (HEI Information is not sufficient.)

6- Not normally distributed nutrients are usually transformed instead of use of dichotomic variables (log-transformation is often sufficient). Were non-consumers excluded or not?

7- It is not clear how similarity of diet behaviours between overweight and obese
individuals was evaluated. Were they tested? Regarding principal analyses, were interaction tests carried out? Same question for possible gender stratified analyses. It is noteworthy that %obesity in women was very high. What are authors’ gender specified hypotheses?

8- One can agree that SES adjustment can actually be overadjustment. However, some other confounding factors should have been used but it is not clear whether they were collected or not. Readers do not have any information about smoking, alcohol intake… which is unusual. Were they collected?

9- In the Discussion page 7, comparisons with previous surveys are mostly limited with others carried out in the exact same context. Are there any other surveys in different contexts but with similarities about the diet transition or the low availability of certain foods that could be made?

10- In the Discussion page 3, comparisons with low CHO dieting are questionable. It is not same objective (to loose weight temporarily or to maintain weight). In addition, instead of IG hypotheses, simple hypotheses about added simple sugars and intrinsic complex sugars could be discussed. Overall the Discussion is too long and could be shortened. The Limitations section misses references and discussions about their consequences on the estimations (which kind of biases?)

- Minor Essential Revisions

1- Abstract: In Methods “characteristics of overweight and obesity were similar”: please specify which characteristics.
2- Abstract: Replace “recalls” by “recall” (ambiguous).
3- Abstract: Delete WC and % body fat since results are not presented (neither really commented in the main text).
4- Abstract: Add details on % of obesity.
5- Abstract: Specify adjustments in the Methods, not in Results.
6- Abstract: Conclusion is about social disparities whereas it is not assessed in the paper. Focus on what it has been studied in the paper.
7- Interest and actual use of WC and % fat mass were not clear throughout the paper.
8- Table 1 can be deleted and replaced by another one including general characteristics of the populations. This is missing.
9- Intake of fat %EI is very low on the two last quartiles of CHO intakes.

Level of interest: An article of importance in its field

Quality of written English: Acceptable

Statistical review: No, the manuscript does not need to be seen by a statistician.
Declaration of competing interests:

I declare that I have no competing interests