Reviewer’s report

Title: Insulin resistance (HOMA-IR) and body fat (%) are associated to low intake of fruit and vegetables in Swedish, young adults: The cross-sectional Lifestyle, Biomarkers and Atherosclerosis study

Version: 0 Date: 24 Dec 2018

Reviewer: Kevin Keane

Reviewer’s report:

The manuscript by Fernstrom et al examined the association between HOMA-IR and a self reported dietary survey in young Swedish male and females. They found that recommended seafood and fruit and vegetable intake was associated with lower HomaIR, and some correlations were drawn with lower body fat.

This an interesting and well designed study and of interest to the readership. However, i include some suggestions that may improve the paper.

There is a description of how Vo2 max was measured. But this was not analysed or factored in the analysis. I don't think any of the data was adjusted for this parameter.

Did the authors find an correlation between HOMA IR and VO2, or HOMAIR and body fat etc. This is not given.

It is interesting to see that the measured parameters are not completely dysregulated, more than likely due to the young age. However, this and other limitations should be discussed in some more detail (gender imbalance was mentioned). How did the fitness of the subjects affect the results?

There is some repetition, for example describing the food categories in the intro and methods.

Page 13 line 11, (11.4% is not most of the subjects, should this be 86% of subjects..)

Are the methods appropriate and well described?
If not, please specify what is required in your comments to the authors.

Yes

Does the work include the necessary controls?
If not, please specify which controls are required in your comments to the authors.

Yes

Are the conclusions drawn adequately supported by the data shown?
If not, please explain in your comments to the authors.

Yes

**Are you able to assess any statistics in the manuscript or would you recommend an additional statistical review?**
If an additional statistical review is recommended, please specify what aspects require further assessment in your comments to the editors.

I am able to assess the statistics

**Quality of written English**
Please indicate the quality of language in the manuscript:

Acceptable

**Declaration of competing interests**
Please complete a declaration of competing interests, considering the following questions:

1. Have you in the past five years received reimbursements, fees, funding, or salary from an organisation that may in any way gain or lose financially from the publication of this manuscript, either now or in the future?

2. Do you hold any stocks or shares in an organisation that may in any way gain or lose financially from the publication of this manuscript, either now or in the future?

3. Do you hold or are you currently applying for any patents relating to the content of the manuscript?

4. Have you received reimbursements, fees, funding, or salary from an organization that holds or has applied for patents relating to the content of the manuscript?

5. Do you have any other financial competing interests?

6. Do you have any non-financial competing interests in relation to this paper?

If you can answer no to all of the above, write 'I declare that I have no competing interests' below. If your reply is yes to any, please give details below.

I declare that I have no competing interests

I agree to the open peer review policy of the journal. I understand that my name will be included on my report to the authors and, if the manuscript is accepted for publication, my named report including any attachments I upload will be posted on the website along with the authors' responses. I agree for my report to be made available under an Open Access Creative Commons CC-BY license ([http://creativecommons.org/licenses/by/4.0/](http://creativecommons.org/licenses/by/4.0/)). I understand that any comments
which I do not wish to be included in my named report can be included as confidential comments to the editors, which will not be published.

I agree to the open peer review policy of the journal