Reviewer's report

Title: Diet and lifestyle factors associated with fish consumption in men and women: A study of whether gender differences can result in gender-specific confounding

Version: 1 Date: 15 June 2012

Reviewer: Anu Turunen

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MAJOR COMPULSORY REVISIONS

1. The title of the article should be sharpened. Especially the subtitle needs improvement. “confounding” stands out from the title even though that topic is not very profoundly discussed in the actual manuscript.

2. In Introduction, the amount of evidence regarding the association between fish/omega-3 PUFAS and CVD is a bit understated. There is a large body of evidence and this should be highlighted.

3. The hypothesis regarding fish as a marker of unhealthy diet that comes up in Discussion (last paragraph) should be more clearly stated also in Introduction.

4. Is the division of fish consumption >3 times/week (high) and <=3 times/week (low-to-moderate) well grounded? As far as I understand, <=3 times/week is not very low or even moderate. In many countries, the official recommendation for fish consumption is “at least two times/week” which is quite high and not commonly reached. Lower category limit would be more realistic and the number of “high-consumers” would become bigger. Three or more categories could also be suitable.

5. The second paragraph in Results section is disappointing since data is not shown: these results could have been shown instead of dichotomous representation.

6. Discussion is lacking comparisons with previous studies and summary of the totality of evidence and thus, the true character of discussion is missing. The Discussion should be re-written.

MINOR ESSENTIAL REVISIONS

7. When reporting “correlations”, the word “coefficient” should be added --> “Spearman correlation coefficient”

8. When reporting associations, the direction should be added --> “positively/inversely associated”

9. Is “tendency-to-report-healthy bias” a commonly used term? It looks a bit
bizarre.

10. The use of word “bias” should be checked, e.g., the term “gender bias” sounds a bit weird.

11. The use of English language should be revised by a native English speaker. Some examples:
Word order and word choices, e.g., “reveal” or “interesting” are not the best choices for scientific texts, “plots” in the last paragraph of Results section
Singular versus plural, e.g., Health examinations…has --> have
Prepositions, e.g., correlate to --> correlate with, confounding of --> confounding by, association of --> association between
The use of commas.
The use of hyphens, e.g., 84 item --> 84-item

12. Table 1 should be divided so that it is easy to distinguish between the rows. The fact that the row titles are divided into two rows does not improve legibility.

13. Does “Fat and lean fish intake” in the title of Figure 1 mean total fish? This should be clarified.

14. If possible, Figure 1 should be refined so that it becomes easier to understand, e.g, boundaries for zero correlation and negative correlation could be picked out.

DISCRETIONARY REVISIONS

15. There is a word “Findings” before “Introduction” - is this a typo?

16. The main headings do not follow the Journal instructions “Background, Methods, Results and discussion, Conclusions”. Especially “Discussion with conclusion” is strange.

17. Conclusion could be under its’ own title.

18. I would not use the verb “donate” when referring to giving blood samples for research purposes.

19. The selection of fruit and berries looks a bit limited: only apple/orange, banana and berries? Could this be explained?

20. Personally, I would prefer “root vegetables” over “roots” although the latter is also correct.

21. In the first paragraph of Results section, an expression “high-consumers or low-to moderate-consumers” is used. When combined with “male or female”, the text becomes a bit stiff. Longer expression such as “those women who consumed a lot of fish” would make the text more pleasant.
22. In Table 1, it might be a good idea to decide whether to report systematically either “positive” or “negative” characteristics regarding physical activity, smoking and education, for example, “Physically active, Non-smoker, Academic education”.

**Level of interest:** An article whose findings are important to those with closely related research interests

**Quality of written English:** Needs some language corrections before being published

**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.