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:** 5 June 2012

**Reviewer:** Kylie Smith

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This paper examines diet and lifestyle correlates of fish consumption in a large sample of Swedish men and women. The authors were interested in examining potential sex difference for lifestyle and dietary correlates of fish consumption, after they previously reported eating fish more than three times per week was associated with an increased risk of stroke in men but a decreased risk for women. Although the findings from the authors’ previous paper on fish consumption and stroke prompted the current paper, I think the current paper should stand alone. The abstract and discussion refer to the earlier paper on stroke and this is not appropriate.

Major Methods

1. The data comes from a large population based sample but more information is needed to determine the generalisability of results. Please provide more information on the recruitment of participants. How are eligible participants identified? Are all citizens of the appropriate age (30, 40, 50, 60 years) invited to participate in the health examinations? If not how are participants selected?

2. Were the health examination held annually since 1985?

3. The fish questions from the FFQ have been validated using erythrocyte levels of EPA and DHA which is a strength of this study.

4. The fish consumption data is dichotomised to >3 times per week or #3 times per week, please justify why this cut point was used.

Results

1. What was the response rate?

2. Second last paragraph referring to using finer categories for fish consumption “… fish consumption was associated with healthier behavior over the whole scale....” This sentence isn’t very clear, please explain in more detail what you mean by whole scale.

Discussion

1. Third paragraph is not clear. When you say “Alcohol consumption was not adjusted for in that study...” it looks like you mean the study mentioned in the
previous sentence (referring to ref 17), but I think you mean the study mentioned at the start of the paragraph?

2. Please remove the analyses referring to the stroke paper. The current paper is investigating potential gender differences in diet and lifestyle variables associated with fish consumption. Although your stroke paper provided the idea for the current paper, I don’t think it is appropriate to examine the association between fish consumption and stroke adjusted for alcohol intake in the current paper.

3. Please include the limitations of the study in the discussion.

4. Table 1. I don’t think the three fish variables (fish, lean fish and fat fish) should be included in this table because these are the variables that define fish consumption therefore you would expect higher values in those who ate fish >3 times per week.

5. Figure 1. This is a very effective way to visually present the data.

Minor

Introduction

6. Another paper you could reference - Barberger-Gateau et al (European Journal of Clinical Nutrition, 2005) have also examined correlates of fish consumption.

7. Please write FIL out in full the first time it is used. How was calorie intake calculated, did the FFQ include information on portion size? How was basal metabolic rate calculated?

Methods

8. Statistical analysis Line 6 – I think you been mean reference group not baseline? “…levels in the low-to-moderate consumers were considered as the reference group in each gender”.

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: No, the manuscript does not need to be seen by a statistician.