Reviewer's report

Title: A valid short food frequency questionnaire with main focus on seafood and n-3 supplements intakes.

Version: 1 Date: 18 August 2011

Reviewer: Barbara J Meyer

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The aim was to validate a short FFQ that assesses seafood and n-3 supplement intakes using erythrocyte n-3 and serum vitamin D as biomarkers.

Major revisions

Relative validity of a new FFQ must be assessed by comparison to a reference method e.g. a 3 day weighed food record, but the authors have not used a reference method. However, the authors have used an independent assessment of intakes (e.g. appropriate biomarkers) which is an independent validity check. In this case the appropriate biomarkers were erythrocyte n-3 and serum vitamin D. Furthermore, to validate an instrument such as a FFQ, a measure of reproducibility is warranted. Therefore in order to conclude if a FFQ is valid, comparisons to a reference method (e.g. 3 day weighed food record) and assessment of reproducibility are warranted, but both of these assessments are not included in the current study.

More recently, FFQs have been assessed against weighed food records and a biomarker by using the methods of triads. Please refer to Swierk et al Nutrition 2011;27:641-646, for further details.

The authors point out that fatty/oily fish contain higher levels of n-3 compared with lean fish, but there does not seem to be a distinction between the fattiness of the fish in the short FFQ. A distinction needs to be made between fatty/oily and lean fish in the short FFQ.

In the results section, the authors refer to quartiles of n-3 intakes and misclassifications and refer to figure 1. Figure 1 does not show the quartile of intakes, nor the misclassifications. This needs to be corrected for both n-3 and vitamin D. Why not show the misclassifications in a table like Sullivan et al (ref 26)?

Explanation of the large correlation (0.66) seen with DPA is also warranted as other studies (McNaughton et al 2007 = ref 27, Sullivan et al 2006 = ref 26) showed no such correlations.

The authors also refer to correlations between seafood intakes and selenium levels and refer to table 4, but table 4 does not show these correlations. Similarly table 4 does not show correlations with iodine. Furthermore, the authors need to explain why Q2 iodine is higher than Q3 iodine (table 4).

In the discussion section, the authors explain the weakness of the calculation of
points, but the example provided is incorrect and needs to be corrected. “In comparison, you will also get a total of four points by eating seafood dinner once a month and seafood as spread once a month,” but these two would only provide two points not 4 points.

Minor revisions
Include p values in table where appropriate.
In the discussion page 14, “…we found a fairly well correlation…” should read “…we found a fairly good correlation…”

**Level of interest:** Reject as not of sufficient priority to merit publishing in this journal

**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.

**Declaration of competing interests:**
I declare that I have no competing interests