Reviewer's report

Title: Relative Validity of a Web-based Food Frequency Questionnaire for Danish Adolescents

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Reviewer: Camille Lassale

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Relative validity of a web-based food frequency questionnaire for Danish adolescents

This paper presents a necessary study of appraisal of relative validity of a new web-based FFQ for adolescents with 24HRs. The writing is overall clear but needs editing and rephrasing in several occasions. The main comment is on the reporting of results which is a bit "wobbly" (number in the text not matching the table), statistical analysis lacks details and the discussion/conclusion of the results should emphasize more the high degree of misclassification and overall low correlations and kappa.

Abstract

1.45: please clarify which food items were under or over estimated

1.54: separate food and nutrients

1.57: "Finally it seemed that…a challenge in this age group": this sentence is not supported by anything that was described before and should be deleted from the abstract

Introduction

1.4-5, please specify that it is in adolescents and maybe cite a few more studies. This sentence should be combined with the sentence 1.7-8 which should be deleted. Suggestion: "Diet-disease associations are often based on dietary intake estimated from a food frequency questionnaire, particularly in large scale studies.

1.11: please replace "golden standard" by gold standard

1.17: please rephrase, it seems that a coefficient of 0 is suitable
Please place Aim (l.32) at the end of the introduction.

Methods

Figure 1 is very simple and not particularly useful, consider omitting.

1.61: at the individual level some participants could have zero weekend days, while other may have two for instance? A common method is to have two week days and one weekend day randomly selected for each participant.

1.81. Lack of details on the FFQ and administration mode: did it include photographs? How was portion size defined? It is not very clear from the methods that the FFQ was web-based and self-administered. The sentence 1.85 "the first two pages" is misleading as it is not supposed to be paper.

1.82: the non-dietary questions are not part of the FFQ. Please rephrase. Suggestion "Along with the FFQ, a general questionnaire included questions on…"

Statistical analysis
1.109-111: it is unclear until 1.112 in which condition did you use the mean or the median. This should come up before.

1.112-114 You are comparing FFQ ranking with 24HR ranking but it is not stated in the sentence. Please clarify.

Results

1.131. Where is the 26% overweight coming from? This is not matching what is found in table 1 13.7%. If you sum with obese 13.7 that would be 27.4. Also you should state "overweight or obese". Please be more thorough when reporting results.

1.136. Please add "ratio> 100+-50%" to stay consistent. Also, you really want to comment only on significant differences, ie ratio significantly different from 1, but the two results are redundant and you may want to choose to report either only the ratio or only the difference.

The ratio FFQ/24HR is not described in the methods and we don't know what is presented: is it the ratio of the medians, the ratio of the means, the mean of the individuals ratios?
1.144 why don't you show some examples of bland altman plots for dairy cereals fish fruit veg? at least in supplemental

Table 3: Please indicate significance of all coefficients (de-attenuated, energy adjusted&de-attenuated)

1.162: why don't you make a table with differences between overweight and normal?

1.177: where is the threshold of 30% coming from? You should define it before with references as an acceptable threshold

1.178: please list the main food underreported and the main food items over reported

1.181: the lowest value of kappa is 0.05, not 0.10. A value <0.40 is considered poor. Please rephrase.

1.182. The definition of misclassification is rather extreme as being classified into the opposite quartile is the worst possible misclassification. A value of 10% is not low for such strong error.

1.200: on which data is based this assumption that the underreporting of sweets happens during the weekends?

1.210 Snack or meals but not snack meals. Also this sentence makes a strong assumption as a 24HR if well conducted should include incentive questions to help remember snacks.

1.224-6. This sentence does not add any information and it mixes results in adults and adolescents: I don't know where you are going with this.

1.228: please replace "distribute" by administer

1.247 "broadened the validation perspective" does not make much sense. These methods allow assessment of validity where the current study only allows assessment of relative validity compared with 3 24HRs.
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Please indicate how interesting you found the manuscript:

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