Reviewer's report

Title: The development and evaluation of the Australian Child and Adolescent Recommended Food Score: a cross-sectional study

Version: 2 Date: 7 May 2012

Reviewer: Anna Stahl

Reviewer's report:

This paper reports on the development of a food based quality index for use in Australian children. I appreciate the effort to develop a diet quality index based on an existing food frequency questionnaire. However, the approach has limitations that should be discussed in more detail. I have some concerns, as noted below.

Major Compulsory Revisions:

1. Methods: The description of the nutrient intake calculation seems to be confusing (lines 72-79: AUSNUT Revision 17 and 14).
2. Methods: How did you handle missing values?
3. Methods: It does not become clear whether weight and height were measured in a standardized way.
4. Methods: Which definition did you use to define overweight and obesity?
5. Methods: I wonder why the multiple regression analyses were adjusted for sedentary behavior, BMI and age, but not for sex and energy intake.
6. Methods / Table 2: Why did you exclude other drinks than water like herbal tea? In addition, it is not easy to understand why (small amounts of) fruit juice (100% fruit) are neither included in the food group “Water“ than in the food group “Fruit” although they can contribute to dietary quality.
7. Table 2: In my opinion, Nutella (a chocolate spread with about 13% hazel nut) is not “Protein Foods – Meat alternative”, but sweets/candy.
8. Discussion: The dietary guidelines for children in Australia (Table 1) do not provide recommended amounts for the different food groups. Thus, the impact of subjectivity on the scoring should be discussed (limitations).
9. The accuracy of the index was analyzed by comparing ACARFS and nutrient intakes. Both were derived from the ACAES FFQ. The investigation of associations between the ACARFS and biochemical measures would have been more meaningful. Thus, the agreement between ACARFS and nutrient intake should not be over-interpreted. I feel that the Conclusion (“accurate and brief assessment”, “sufficient accuracy”, “can accurately assess diet quality”) is not suitable.
10. Table 2: Trade names (e. g. Nutella, Vegemite) should not be used.
Minor Essential Revisions:
Minor issues not for publication (grammatical errors)
• Abstract Methods „The ACARFS has with eight sub-scales and is scored from zero to seventy-three and …“
• Line 15 „In adults, a review diet quality indexes found that“
• Line 56 „The data is this study is from a cross-sectional survey“

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

Quality of written English: Acceptable

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