Reviewer’s report

Title: Energy and Macronutrient Intake among School Children in Bahrain

Version: 6 Date: 7 March 2011

Reviewer: Maria Waling

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1. The study objective is new and well defined.
2. The methods need to be revised (see comments below).
3. See comments below.
4. See comments below.
5. See comments below.
6. See comments below.
7. The writing is acceptable but need to be reviewed by an English speaking person.

MAJOR COMPULSORY REVISIONS

GENERAL
1. I still find the words “qualitative” and “quantitative” in the manuscript.

TITEL
2. The title is much better but I wonder if “food habits” can be a better word for “dietary pattern”? If you agree, the title could be: “Energy, macronutrient and food intake among Bahrain school children: a cross-sectional study.”

ABSTRACT

Background
3. In the first sentence, do you mean that obesity is increasing among Bahrain children (if so you should clarify this) or in general?

Results
4. The last sentence starting with “While sweets…” I think you should use another word than “popular” e.g. “frequently consumed”

BACKGROUND

1st paragraph
5. First sentence: I suggest you clarify that it is diabetes type 2 you mean.

6. Second last sentence: I suggest you clarify that it is Bahrain school children you talk about.

2nd paragraph:
7. First sentence: I still have some trouble understanding this. What do you mean by nutritional status? Weight?, BMI?, blood samples? Further, I think you should clarify that the data you are talking about regarding food habits are frequency data. When I read this my thought was; if you have data on nutritional status and dietary habits then you must have data on macronutrient intake also. However, now I understand that the data you have on food habits are frequency data (which you can’t see macronutrient intake from). This I think can be clarified as well as what you mean by nutritional status.

METHODS
Subjects and methods
8. A suggestion is to change this header to “study design”.

Sampling
9. Another header could be “Recruitment”
10. I still have some trouble understanding the recruitment procedure even though the description has improved. From what I understand a total of 2562 children were included in the study. However, further down in the same paragraph you write that 1386+596+612 who was chosen for the study sample. The total of that is 2594 and not 2562.
11. In the first paragraph in the sentence beginning with “The allocated number of students from each level...” you write that “few” students were randomly selected from each class – how many were they?

Ethical considerations
12. The last sentence beginning with: “Parents were informed...” What kind of nutritional health problems do you mean? My point is that I do not believe that you can say much about a person’s health status from a dietary assessment method since there are so many sources of errors included. To say anything about a person’s nutritional health e.g. iron deficiency you have to take a blood sample.

Data collection
13. At the end of the paragraph where you write about the weekend intake and that it may vary, this sentence I think should be moved to the discussion.
14. The last sentence in the last paragraph about P:S ratio: You write that a ratio of less than 1 was “unacceptable”. You should use another term than “unacceptable”. Why was the limit set there e.g. because it is related to an increased risk for future health problems (or whatever it is). Be more specific.

Food frequency data
15. Is it possible to add a reference to where the method is described in more detail, from the previous study? Even though you to this you could give a brief description to how the data was collected.

DATA ENTRY AND STATISTICAL ANALYSIS
16. You write that you use a version of Nutritionist 5 from 1998. How do you think
this could have affected your results? There are many new products that have
come out on the market since then.

17. Was the data not normally distributed? I ask this because you have chosen
non-parametric tests.

VALIDITY

18. This paragraph I suggest you delete. I do not agree that comparing energy
intake of the normal weight, overweight and obese children can say anything
about the validity of the reported energy intake. Below are a few good articles
that talk about validity:

• Livingstone, MB. Markers of the validity of reported energy intake. 2003.
• Livingstone, MB. Issues in dietary intake assessment of children and

19. You have added some important information on what you did to increase the
validity in the paragraph starting with “Quality controls…” and this should be
moved to the discussion.

RESULTS

20. General: I miss information about the characteristics of the children e.g. how
many were girls respectively boys, how many were normal weight, overweight,
obese (as well as you definition of overweight and obesity – I suggest you to use
Cole et al.’s definition which you can find in the following reference “Establishing
a standard definition of child overweight and obesity worldwide: international
survey, 2000)

Energy and macronutrient intake

21. In the first paragraph you write that the percentage of mean energy intake
when compared to EAR values decreased with increasing age of both boys and
girls. This could be due to increased underreporting with the increased age. This
relationship has been observed in other studies.

22. In the fourth paragraph where you write about total sugar intake, do you
mean mono- and disaccharides?

Mean energy, E% of macronutrients, sugar, fiber and P:S ratio by diets having
different levels of total fat contribution to energy

23. I still have trouble seeing to point of having the table related to this topic.
Some things in the table are obvious e.g. that fat (E%) including SFA, MUFA,
PUFA and cholesterol will increase among those who consume more fat. The
conclusion that could be drawn is that carbohydrate intake (E%) decrease as fat
intake (E%) increase. Proportion energy from protein, on the other hand, seems
to remain the same irrespective of how much fat is consumed. I think this can be
written in the text (and does not need its own header).

DISCUSSION

24. General: I think you can elaborate the part about validity. It is good that you
now have mentioned it and that you acknowledge it but you could write more
about e.g. underreporting and age as well as underreporting and overweight and obesity (e.g. if a large proportion of the population are overweight or obese).

25. In the first paragraph I think you should remove what is written about validity and BMI.

26. In the second paragraph you write “Could excessive calorie consumption have contributed to the high prevalence of overweight status found in Bahrain children of this study”. First, it would be interesting to know what the prevalence is (as mentioned earlier). Secondly, the sentence is formulated as a question; if it is a question a question mark should be added.

27. In paragraph 4 you write about a high energy intake early in life could increase the risk of adiposity later in life. Isn’t this if the consumption of protein is high earlier in life than the age of the Bahrain children in the present study?

28. In paragraph 5 you write about that the children consumed at least 1 regular soda drink per day. What do you mean by “regular”?

29. In the same paragraph you write about sweet beverage consumption and increase of BMI – you have missed to place a reference after that statement.

30. In the 6 paragraph which starts with “Besides weight gain..” you write about weight gain and dietary factors and the relationship with coronary heart disease. I think you should replace “weight gain” with “increased BMI” since children are supposed to increase in weight as they grow.

31. General: The discussion about the food intake is very limited. What have other studies shown regarding food intake?

Table 1

32. Instead of ” % kj from protein” you should write “Protein (E %)”. The same goes for all macronutrients.

33. What is included in “sugar”? Mono-and disaccharides? This could be explained in a foot note?

Table 2

34. Can be deleted, It is enough to mention about other relevant studies in the discussion.

Figure 1

35. You have two figures that are completely the same.

36. Cannot see the difference in colors between boys and girls.

Level of interest: An article of importance in its field

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.