Author’s response to reviews

Title: Development and validation of a food frequency questionnaire (FFQ) for assessing dietary macronutrients and calcium intake in Cambodian school-aged children

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Version 2: Date: 06 Feb. 2019
Dear Professor Camille Lassale:

Thank you for your consideration of our manuscript entitled “Development and validation of a food frequency questionnaire (FFQ) for assessing dietary macronutrients and calcium intake in Cambodian school-aged children” (NUTJ-D-18-00236R1) for publication in Nutrition Journal. We are delighted to learn that the reviewer found our manuscript interesting and of value. In response to the reviewer’s helpful comments, we are pleased to submit a second revised version of the manuscript as well as our point-by-point responses to the reviewer’s comments.

Our manuscript has been checked by a professional English editing service. We sincerely hope that we have adequately addressed the concerns of the reviewer and look forward to a favorable decision regarding our revised manuscript.

With kind regards,

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Reviewer #2:

Comment 1:

In absence of calcium measurements, the validation and reproducibility of a FFQ assessing the calcium and other macronutrients intakes requires further information. It seems important to assess whether some covariates influence the correlations of nutrients intake estimations between the 2 FFQ (as suggested in previous comment). Actually it is important to show that these correlation estimations are the same whatever the age group, the sex, regional situation, of the children recruited to validate the questionnaire. In the current revision, authors did not respond to this point and did not provide any additional analyses regarding this point.

Response 1:

Thank you for indicating this. We apologize for not adequate responding to your previous comment.

We agree that age, sex, weight, and height should be considered. We have accordingly performed additional analyses separately for boys and girls, as well as for children aged 7-9 years and those aged 10-17 years. The results are presented in the tables of the additional file (Supplementary Material).

In addition, we have commented and modified the Result (Lines 195-197 and 204-206) and Discussion (Lines 242-245 and 265-274) sections.

Result

“In addition, the correlation coefficients for both crude and energy-adjusted values were higher in boys than in girls, as well as in children aged 10-17 years than in those aged 7-9 years (data not shown).”

Furthermore, the correlation coefficients for the transformed and de-attenuated values, except those of calcium, were higher in boys than in girls, as well as in children aged 7-9 years than in those aged 10-17 years (data not shown).”
Discussion

“The reproducibility was higher in children aged 10-17 years than in those aged 7-9 years. This result was consistent to that of a previous study [14] that showed the tendency of a higher correlation among high school students than among elementary school students. This could be because the knowledge about foods or dishes was greater among older children [27].”

“Regarding sex, the higher correlation in boys than in girls observed in this study was similar to that reported in a previous validation study among children [7]. The sex difference would be owing to the portion size [28]. Other factors considered would be that the under-reporting of diet among adolescent girls was associated with unstructured eating, concerns with self-image [33], and living in a city [34]. In addition, the correlation in children aged 7-9 years was higher than in those aged 10-17 years. This finding was different from the result of the reproducibility. We assumed that the portion size of FFQ might not be suitable for older children in Phnom Penh city. Furthermore, the more amount of foods and more opportunities to eat various foods among older children could have led to the discrepancy between FFQ and 24Hs.”

Comment 2:

The length of introduction might be reduced.

Response 2:

Thank you for your advice.

We have accordingly reduced the length of the Background section from 548 to 447 words.

Comment 3:

Discussion on whether the sample used to validate the FFQ is representative to "the whole school-aged children of Cambodia" is needed.

Response 3:

Thank you for this pertinent comment.
This study aimed to develop an FFQ and did not consider the eating patterns of different areas of the country. However, we developed the FFQ based on the survey among children aged 6-17 years who were recruited from the 23 province and Phnom Penh city in Cambodia, and invariably eating pattern (food types, frequency of intakes and amount of food) among urban and rural dwellers affected to the food list subsequently to the final FFQ.

In the present study, we validated the FFQ among children in Phnom Penh; however, a validation study for the FFQ among children in other areas is needed in our future work.

We have accordingly revised the limitations mentioned in the Discussion section (Lines 295-297).

Discussion

“Third, the student subjects were recruited from Phnom Penh city only. A further survey among students in other districts would be needed to validate the FFQ designed for all school-aged children of Cambodia.”

Comment 4:

More details on the sampling methods should be provided. How many students in Phnom Penh, how the schools have been chosen, Phnom Penh is the capital, how schools differ from more rural area? These elements allow to discuss the extent to which the FFQ developed by the authors has been validated in specific population of children of Cambodia and need perhaps further validation in other samples of children?

Response 4:

Thank you for this comment. We agree that further validation studies are needed.

We have accordingly revised the sentences about the sampling method and so on (Lines 131-137, 140 and 145). In addition, we have modified some texts in the Discussion section (Lines 295-297).

Study participants

“A total of 121 students (53 boys and 68 girls) aged 6-17 years were recruited based on the two-stage systematic cluster sampling. In the first stage, each school from 4 communities in Sen sok, tuol Kauk, Meanche, and Chamkar Morn was selected via a systematic random sampling technique from seven districts of the Department of Education in Phnom Penh city. In the second
stage, from each school, sampling numbers of students was performed using the proportional cluster sampling method.”

Discussion

“Third, the student subjects were recruited from Phnom Penh city only. A further survey among students in other districts would be needed to validate the FFQ designed for all school-aged children of Cambodia.”

Other revisions

We have also revised the affiliation and e-mail address of the first author (YY) and the affiliation and e-mail address of the third author (Lines 8-9, 18, and 21-23, Lines 13-15 and 19).

We have also added the abbreviation “CAM-RDA” in the Background section (Lines 62-63 and 311).

In addition, the following references have been added (No. 27, 28, 33 and 34).


