Reviewer’s report

Title: Validation of a food frequency questionnaire as a tool for assessing dietary intake in cardiovascular disease research and surveillance in Bangladesh

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Reviewer: Sarah Kehoe

Reviewer's report:

General Comments

This manuscript describes a validation study of a food frequency questionnaire developed for use in Bangladesh as a tool for cardiovascular disease surveillance. I would suggest that the title of the manuscript is re-worded. Overall the manuscript is well written but there are some typographical (e.g. line 242) and grammatical errors and therefore the manuscript requires a thorough proof read.

As the authors point out, there are few validation studies of dietary assessment methods in low- and middle-income countries such as Bangladesh and there is a need for such studies. The rationale and methods are not completely aligned. The authors state in the introduction that dietary patterns are of interest in the understanding of CVD and urban / rural differences but the validation of the method is based on energy and nutrient intakes. Strengths of the study are that three 24 hour recalls were administered covering week and weekend days and that several blood micronutrient measures were made.

Not all abbreviations are listed in lines 446-448 e.g. NPNL.

Abstract

At present there are no data in the results section of the abstract. Ranges of correlation coefficients could be given for example.

Introduction

Lines 50-52: It would be helpful if the authors presented any data on CVD prevalence and /or mortality in Bangladesh or South Asia to provide some context.

Methods
It is not clear why two FFQ were administered and it is not until the statistical analysis section that the authors state which FFQ is used in the validation analysis. Please state what the first FFQ was used for (if at all).

Line 94: Please state clearly whether the participants in the validation study were also enrolled in the migration study or they were a separate sample?

Line 98: Please check the wording of the exclusion criteria. At present it states that participants with 'no chronic conditions' were excluded. Is this correct?

How was consent to take part in the study obtained? How was this handled for illiterate participants?

Line 119: Please be more specific about the outcomes to be assessed. What is meant by 'the results of the FFQ'?

Line 127: Which FFQ contained 172 items? The arsenic study or the present study? How were additional foods for the FFQ used in the present study identified?

Lines 135-138: This section requires more detail e.g. How many people took part in this study?

How were portion size data collected in the 24 hour recall? Were the same reference portion sizes used as for the FFQ?

Who administered the 24 hour recalls?

Lines 175-180: It would be helpful for the reader to know for how many foods the USDA, Indian and weighed records were used.

Were participants asked about micronutrient supplement intakes as part of the FFQ and 24 hour recalls?

Discussion

Sub-headings would be useful in the discussion section.

It would be interesting to discuss why there were differences in the correlation coefficients between urban and rural residents. This was only done in detail for sodium.

There is no comment on the effect of season on diet. How stable is the diet across seasons and might this affect the responses to the FFQ in particular?

Lines 341-345: Not clear if the authors are talking about the IMS or the present study.

Line 374: Please provide a reference for effect of folate on CVD risk.
Line 387: What is meant by 'Eventually our FFQ revealed…’?

Regarding ferritin, is it also possible that infection or inflammation affected serum ferritin concentrations? C-reactive protein could have been measured to determine this.

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**Quality of written English**
Please indicate the quality of language in the manuscript:

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