Author's response to reviews

Title: Development and validity of a questionnaire to test the knowledge of primary care personnel regarding nutrition in obese adolescents

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Version: 2 Date: 29 March 2013

Author's response to reviews: see over
To
The BioMed Central Editorial Team

Subject:

Article title: Development and validity of a questionnaire to test the knowledge of primary care personnel regarding nutrition in obese adolescents

MS ID: 1963157178852852

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Journal: BMC Public Health

Dear Editor

We revised the abovementioned article according to the reviewers’ recommendations, which contributed significantly to improving the text. We also inserted a figure to illustrate the steps for questionnaire development and validation. Therefore, we ask that you consider the revised version of the manuscript for publication in BMC Public Health.

Below we list the reviewers’ comments and our answers, numbering the questions and indicating their insertion in the text. In the article, we inserted question numbers in the commentaries.

Yours sincerely

Lucinéia de Pinho and co-authors

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<table>
<thead>
<tr>
<th>Q</th>
<th>Minor Essential Revisions</th>
<th>Answers (P=paragraph; L=line)</th>
</tr>
</thead>
<tbody>
<tr>
<td>#1</td>
<td>1. Are the methods appropriate and well described?</td>
<td>Yes, but suggest the following changes: an explanation of why socio-economic questions were included would have been helpful.</td>
</tr>
<tr>
<td>#2</td>
<td>A database is referred to, but no details provided – please describe the database. The questionnaire has been developed from guidelines, these should be referenced.</td>
<td>The questionnaire was not based on guidelines, but rather was developed according to studies in the area of Nutrition of Obese Adolescents, including documents validated by the Brazilian Ministry of Health. The criterion for question elaboration and selection was the frequency with which specific issues arose in the different studies. We elaborated an appendix to the text listing the references used to build the questionnaire (Appendix 1). See Methods (P1, L1-4); Methods (Step 3, P1, L1-4); Appendix 1</td>
</tr>
<tr>
<td>#3</td>
<td>Step 1: An explanation of the process adopted for defining the KNOA concepts should be included.</td>
<td>As explained in the revised text, KNOA was assumed to be adequate knowledge on nutrition that any primary care practitioner should have to treat obese adolescents. See Methods (Step 1, P1, L1-2)</td>
</tr>
<tr>
<td>#4</td>
<td>Step 2: An explanation of the process adopted for compiling the sentences and grouping them into the 7 dimensions should be included.</td>
<td>We agree with reviewer 2 that the dimensions were arbitrarily selected, by the consensus opinion of the authors. We carried out the PCA suggested by Reviewer 2 and did not identify questionnaire characteristics that could be grouped into specific categories. We therefore decided not to divide knowledge into specific dimensions. The revised version of the text contains a continuous questionnaire. See Methods (Step 1, L3-8)</td>
</tr>
<tr>
<td>#5</td>
<td>How many primary care practitioners were involved and how did they assess the questionnaire?</td>
<td>Thirty-five dietitians and 256 primary care practitioners (76 clinicians, 139 nurses and 50 dentists) took part in the study. The questionnaire was applied in their workplace. This information was detailed in the text. See Methods (Step 3, P1, L2-3); Figure 1</td>
</tr>
<tr>
<td>#6</td>
<td>Step 3: numbers of physicians, nurses and dentists should be given that make up the primary care practitioner group. How were they selected?</td>
<td>All primary care practitioners registered with the Secretary of Health in a city of Northen of Minas Gerais, were recruited to participate in the study. This information was included in the text. The inclusion criterion was clinical experience in primary care. This information was inserted into the text. See Methods (Step 3, P1, L1-2)</td>
</tr>
</tbody>
</table>
| #7 | 2. Are the discussion and conclusions well balanced and adequately supported by the data? | Yes, the strengths and weaknesses of the study are adequately discussed. The issue of how this work could be taken forward and |}

This was briefly discussed in the last paragraph of discussion. See Discussion (last paragraph, L1-4)
how it might need to be developed to ensure validity in other countries could have been briefly discussed.

3. Are limitations of the work clearly stated?

A comment on the cultural specificity of the tool’s development and use would be helpful.

Minor issues not for publication

A few minor grammatical errors:

1. Methods: 1st paragraph, last sentence (second half). The meaning is not clear.

2. Methods: Step 3, line 2 should read “accordance”, not according

Use of American English spellings (UK: counselling, programme) and terms “candy” (UK: confectionery).

3. Table 1: is “propedetics the right term?”

We adopted American English spelling.

The correct spelling is propedetics (see http://medical-dictionary.thefreedictionary.com/propedetics)

4. Table 3: should this read "10% to 15%", not 10 and 15%.

5. Table 5: should read Unsatisfactory, not "Insatisfactory”. Regular is not a usual classification of questionnaire responses. suggest "satisfactory" is used.

Information added. See Results (Subject Characterization) and Discussion (P2, L9-19)

This aspect was considered in the last paragraph of discussion. See Discussion (last paragraph, L4-7)

The paragraph was edited. See Methods (P1)

Corrected. See Methods (Step 3, P2, L1-2)

Corrected in Table 5.

Corrected in Table 5.

Answers to Robert McKinley

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<tr>
<td>#16</td>
<td>1. Reviewer’s report:</td>
<td>The study has geographical limitations, which are discussed in the revised version. Nevertheless, we consider that it makes a significant contribution to the field because of the lack of investigation regarding knowledge of healthy nutrition for obese adolescents on the part of primary care practitioners. See Discussion (last paragraph)</td>
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<td>This paper describes the development of a questionnaire to assess the knowledge of primary care workers with respect to adolescent obesity, its causes and its management.</td>
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<td>The paper has strengths: selection of items to address different dimensions, development of an item bank, piloting, item selection, assessment of reliability (internal and retest) and a measure of validity.</td>
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<td>However, there are weaknesses. Most concern the specificity with which the work is reported.</td>
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<td><strong>Major compulsory revisions:</strong></td>
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| #17 | Methods Step 1: the authors do not describe how the dimensions were identified. They state that they were ‘considered important’ but not by whom. If there is evidence from the literature that they are the key dimensions, this should be presented, if it is a consensus opinion this should be stated together with a statement of how the consensus was gathered. It may be a consensus of the authors, if so, this should be stated and the expertise of the authors described so that the reader can judge its provenance.  
We agree with the reviewer that the dimensions were arbitrarily selected, according to the consensus opinion of the authors. We have carried out the PCA suggested, and because we did not identify characteristics that could be grouped into specific categories, we decided not to divide knowledge into specific dimensions. The revised version of the text contains a continuous questionnaire. See Methods (Step 1, L4-9); Figure 1 |
| #18 | Methods Step 2: I assume the 81 sentences were those described in Methods para 2: if so this should be stated. However the authors need to describe how the 42 test items were selected from the 81 candidate items.  
From the initial list of 81 questions, 42 were selected based on the highest frequency with which they were addressed in the studies considered. See Methods (Step 2, P1, L2-4); Figure 1 |
| #19 | The authors need to provide more information on the outcomes of the pilot administration: what problems were encountered and how many items were altered as a result (there may have been none but this should be stated).  
Inconsistencies detected in the pilot study were used as criterion for excluding questions from the final questionnaire. This was explained in the revised version. See Methods (Step 2, P2, last sentence); Results (Final Questionnaire) |
| #20 | Results, Final questionnaire: More information should be given on how the 42 test items were reduced to the final 26 items. For example, were items removed because of stringency (too hard, too easy), item discrimination or reliability issues.  
The exclusion of questionnaire items was detailed in the text. See Results (Final Questionnaire) |
| #21 | Discuss why they chose to base their item stringency (difficulty) decisions on the dieticians rather than the primary care clinicians’ responses: one would normally be interested in the responses of the target population rather than a criterion population.  
The choice was exclusively based on non-dietitians. This was corrected in the text. See Methods (Step 4, item a) |
| #22 | Tell us whether the source questionnaire was administered in Portuguese or English.  
As explained in the revised text, the questionnaire was administered in Portuguese. See Methods (Step 2, P1, L4-5) |
| #23 | Discuss the wording of the questions: questions 2, 11 and 12. I personally (as a primary care clinician) did not understand the jargon and was unsure whether o This was a function of translation o The scores obtained by the primary care clinicians are a function of lack of knowledge of the concept or understanding of the question.  
We rewrote the sentences to make them clearer in English (see Table 3):  
Question 2: The sentence “Nutritional transition is directly related to the prevalence of obesity in adolescents” was changed to: “Changes in nutrition habits, characteristic of the nutrition transition phenomenon, are directly associated to the prevalence of adolescent obesity.” For the term “nutrition transition”, see Amuna 2008.  
Question 11: The sentence “An interruption in the upward obesity curve can be considered a successful therapeutic result” was rewritten as: “Weight stabilization within the percentile associated to obesity on the growth chart can be considered a successful therapeutic result”  
Question12: The sentence “Food guide pyramids should be used in the therapeutic plan
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<th>#24</th>
<th>- What attempts have the authors made to address the validity of the knowledge being assessed for primary care generalist practice: for example is an author or were any members of any reference groups primary care clinicians?</th>
<th>The authors have primary care experience. Moreover, the physicians (called clinicians in the reviewed version), nurses and dentists participating in Step 2 had clinical experience in primary care and provided the authors the information necessary to adapt the text to a generalist panel. Questions 2, 11 and 12 in Table 3 were rewritten.</th>
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<tr>
<td>#25</td>
<td>- How do the authors intend to assess the validity of the content of the questionnaire for primary care clinicians as opposed to specialists. One approach could be to determine whether generalist primary care practitioners with an interest in adolescent obesity have higher scores that those who do not.</td>
<td>The study had a nutritional approach for primary care clinicians, and we believe that another questionnaire should be developed to assess knowledge of Obesity in Adolescence in medical specialists. Therefore, the groups compared (dietitians vs non dietitians) met the purposes of the study.</td>
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</table>
| #26 | Minor essential revisions  
• Methods para 2: neither the database from which the ‘sentences’ were drawn nor the ‘didactic materials and national and international guidelines’ are referenced. I recognise that they be numerous but if so could be presented as an appendix. The authors also do not describe how these materials were identified. Were they identified though a systematic review of the literature or were they already known to the authors?  
• Methods Data Analysis: I would encourage the authors to move the mention of Kappa from Step 4 d to the data analysis section.  
• Results Reliability: I would encourage the authors to add the alpha scores to the domain headings in table 3.  
• I am concerned that the last paragraph of the discussion does not adequately discuss the questionnaire’s limitations. In the epidemiology section, item 1 is dependent on local epidemiology and item 2 relevant to emerging rather than developed economies. This should be acknowledged and the need to amend or replace items if it is used in a moderate consumption and proportion of food items” now reads: “Food guide pyramids should be shown to patients to explain nutrient variety, moderate consumption and proportion of food items.” | We added an Appendix to the text listing the references used to build KNOA.  
The mention of the test was moved to the Data Analysis section. See Methods (Data Analysis, P3)  
Because the domains were arbitrary, they were excluded from Table 3.  
Questionnaire limitations were better discussed in the last paragraph of the Discussion section. |
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<th>#30</th>
<th><strong>Discretionary Revisions</strong></th>
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<td></td>
<td>• Results Criterion validity Methods para 2: I would encourage the authors to use consistent wording and to use ‘very good’ or ‘optimal’ to describe Q4 responses.</td>
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<td>We adopted “very good”; and “fair” instead of “regular”. See Results (Criterion validity..., P2, L3-L5)</td>
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<td>#31</td>
<td>• Submit their data to a principal components analysis. This would let them know whether their items load into domains or if the questionnaire is a single knowledge scale and hence inform their assertion in the discussion (para 4) that it is.</td>
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<td>Idem answer to Question #17</td>
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<td>#32</td>
<td>• Lastly, the authors give no indication of whether they intend to further explore the properties of the questionnaire or to develop it further. For example, is it responsive to education interventions, does it inform educational interventions or does it have predictive validity.</td>
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<td></td>
<td>Indicated in the last paragraph of the Discussion.</td>
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