Reviewer’s report

Title: The presentation of a short adapted questionnaire to measure asthma knowledge of parents

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Reviewer: Donna Rennie

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BPED-D-17-00228

Do parents know what children think? A short questionnaire to measure asthma knowledge of parents.

Thank you for the opportunity to review this paper regarding asthma management. This is generally, a well-written paper. However, there are some major issues that need to be addressed.

Review:

Title: The initial question in the title does not fit the content of the manuscript or the research conducted. Please modify to appropriately reflect the main message of the manuscript.

Abstract: The abstract describes most of the main messages of the paper. The tool used in this study should be referred to by its name and considering the modification. This will be required for indexing purposes. Indicate it was a 21 item Likert type 5 point scale assessing agreement with the cognate areas under assessment. Please identify that you modified the scale to 10 items by factor analysis later and what was the internal consistency reliability of the final tool.

Introduction

One important point identified in the background was that guided self-management reduces asthma morbidity in adults and children (line17 page 4). Elaborate and reference.

There is limited background concerning previous research methods assessing parental educational needs related to children's asthma although there is published literature- some of it is qualitative. The background literature and general findings need to be addressed.
Methods

Please identify the design of the study

When discussing the tool used in the assessment of learning needs, please identify it by name. This is mentioned later in the discussion. All essential information about the tool and where it originated should be reported in the methods. Identify the anchor values for the scale items.

Line 17, page 5. Have there been other assessments of this tool since 2009? What indicators made this tool the best one? A moderate coefficient value is not sufficient. Check the assessment criteria used for the tools reviewed by Pink et al. (2009). Provide this information to support the modest coefficient.

Regarding the Asthma Knowledge Questionnaire: please provide a reference for the approach taken to translation including why backward translation can result in better quality control and content equivalence. Was the systematic method used (line 24) based on previous methods used by others? If so, reference or acknowledge your own method.

There may be some major problems with this tool regarding the original translation: Rodrigues-Martinez & Sossa (reference 12), who developed the tool, present the tool in English in their report of its first use although it is apparent the tool was originally delivered in Spanish to the population with whom it is evaluated. There is no information presented in that paper confirming the process of translating this tool might have undergone prior to reporting it in English. Can you verify the tool was originally delivered in English? Did they validate the English version? This should be discussed in the potential limitations.

Population: There were are two populations under study here (asthma and bronchial hyperreactivity. How many were in each group? How were diagnosis of conditions confirmed? Considering that parents learning needs might be different by diagnosis, consider conducting a sensitivity analysis or check for homogeneity of the overall group.

How were the children selected in homes with more than one child with asthma or bronchial hyperreactivity?

Variables assessed besides the Asthma Knowledge Questionnaire: The asthma severity scale: please describe how this was operationalized. What indicators of severity were included in this scale or how was the question worded? Operationally define educational level. Although not included in the section on assessment, there was assessment of citizenship - ethnicity. How was the variable defined?
Results

The second paragraph, page 7 needs clarification. I realize (although none of the tables state so explicitly) that there were 283 parents with complete information. The description of the missing data past line 27 is not useful. There are low numbers of missing data for all of these variables. Consider a general statement about of the ways the authors handled missing data. Two main approaches were reported: researchers phoned the subjects in some cases or looked at the patient record.

Identify the median age. As well, the mean age requires the standard deviation.

What was the median score and IQR's or range on the modified Asthma Knowledge Questionnaire?

Line 17, page 8: Exclude "This result is in accordance with previous research" That is discussion content.

There is also a reference to Moroccan children (Line 44, page 8). Is it a finding of this study or not? Table 1 appears to support it was part of the data collection. If so, why is there a reference to another research article in the results?

Discussion.

Line 53 -58, page 8: This first line in the discussion needs to be clarified. There is a comparison of the mean score in the current study to the range of a previous report. There is an inconsistency in the discussion about the knowledge scores. The referencing may be incomplete. Reference 21 is used on line 16, page 8 but does not appear anywhere in the discussion of the knowledge score.

Line 59, page 8. The sentence is a bit confusing. The education level above grade 12 in current study was close to 80%. To what study are the authors referring to when discussing the highest proportion of those with lower education? This needs to be clarified.

Line 24, page 9. It is not reasonable to suggest that as long as parents continue their education beyond high school that they will have success in asthma management. This is a non-experimental study, with a lower level of evidence which does not provide support for causality. As well, the research referenced in the next sentence supports only an association. The authors
need to recognize that there was no adjustment of other risk factors and this is at best a preliminary assessment of knowledge needs for asthma.

Line 42, page 9. There should be replication of those medication items added to the tool as they were newly added to the overall scale and could account for decreasing the effect size for the overall mean score on the tool. The addition of these new items to the scale make it difficult to compare this studies overall findings with the original tool.

Line 54. I question that there was no data on those who did not return the questionnaire and therefore comparisons between participants and non-participants is not possible. The authors note they were able to impute missing information into the questionnaire by examining the patient's files. In a cohort, where the response rate was moderate only, comparisons between non-participants and participants should be considered on some variables common to both groups that can be found in clinic charts.

There is no discussion or explanation on why some of these factors did not load in the factor analysis. Have other studies shown similar results?

Good point in the limitations about parental history of asthma which could bias results.

**Are the methods appropriate and well described?**
If not, please specify what is required in your comments to the authors.

No

**Does the work include the necessary controls?**
If not, please specify which controls are required in your comments to the authors.

Unable to assess

**Are the conclusions drawn adequately supported by the data shown?**
If not, please explain in your comments to the authors.

Yes

**Are you able to assess any statistics in the manuscript or would you recommend an additional statistical review?**
If an additional statistical review is recommended, please specify what aspects require further assessment in your comments to the editors.

I am able to assess the statistics
Quality of written English
Please indicate the quality of language in the manuscript:

Acceptable

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