Reviewer's report

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

Version: 0 Date: 05 Jun 2017

Reviewer: Cristian Dogaru

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An interesting study on an important topic - parents' knowledge and understanding of asthma in children.

There are some areas that need clarification and more work:

1. Missing data: on page 5, lines 48-51 the authors state that missing values on the knowledge questionnaire were scored as "3" ("neither agree nor disagree"). I find this assumption problematic - a missing answer could mean other things than being in the middle of the scale or not having sufficient knowledge on asthma in children. There are other more appropriate ways to deal with missing data - from listwise deletion to multiple imputation techniques. A side note, I think the authors spend too much time with reporting missing data (almost the entire page 7).

Page 10, lines 53-58: the authors state that "Since there was a high response rate (54.3%)" - I disagree that 54% is a high response rate in a cross sectional study with rather easy access to participants.

2. Questionnaire: While I understand that the questionnaire was validated in a previous study, I am not convinced about its construct validity. A questionnaire about people's knowledge of something should not be phrased as "strongly agree - strongly disagree". Is "strongly agree" showing more knowledge than "agree"? - I would argue that it does not. Corollary, taking the sum of the 1 to 5 individual scores on the items does not properly reflect degree of knowledge, on a purported continuous scale. I understand the limitation in using an existing questionnaire. I would rather dichotomise each item (0/1; no/yes), with "Strongly disagree", "disagree" and "neither" as "no" (little knowledge) and "agree" and "strongly agree" as "yes" (knowledgeable), and take the sum of that, ending up with a scale 0 to 21.

3. Analysis: I would like to see the results of a *multiple regression analysis*, with all predictors taken into account, before any conclusions are drawn. On page 8, lines 34-36
the authors say that "Fathers with a Master's degree scored significantly higher". Where is this significance coming out from? - this requires an interaction test within a multiple regression analysis.

4. The education distribution seems to be quite unbalanced, with only 48 (17%) parents having high school degree or below. I would repeat the analysis with 3 levels for education, "high school and below", "professional education" and "Bachelor and Master degrees"

5. There needs to be some discussion as to why education level is related to asthma knowledge.

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

Yes

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

Unable to assess

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