Author’s response to reviews

Title: Cross-cultural validation of the Bengali version Kidscreen-27 quality of life questionnaire

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Author’s response to reviews:

Dear BMC Pediatrics,

Re: BPED-D-18-00395R1

Cross-cultural validation of the Bengali version Kidscreen-27 quality of life questionnaire

Thank you for considering our manuscript for BMC Pediatrics and to your Reviewers for the time and effort they have given in providing comment. We appreciate the improvements they have suggested and have addressed each point in our revised manuscript and in our point-by-point responses below.
1. Technical Comments: Abbreviations - This should be placed after the Conclusions section in the manuscript body.

Response: Thank you. Abbreviations are provided after ‘Conclusions’ in the manuscript body.


Response: Thank you for this valuable note and our apologies to have omitted this important reference.

We have reviewed our ‘Background’ and ‘Discussion’ sections and strengthened content in regards to cross-cultural measure of HRQoL and psychometric testing of HRQoL instruments. We have given reference to Stevanovic, D. & Jafari, P. (2015) among other studies related to the psychometric validation of KIDSCREEN instruments. Amendments have been made to the manuscript throughout.

3. Reviewer 1: Second, it should be avoided "Sensitivity" from the methods/results/discussion, whereas could be mistaken for sensitivity to change. Floor and ceiling effect- These are descriptive measures.

Response: Thank you for identifying this potential point of confusion. We have changed the language in the manuscript so that ‘sensitivity’ is replaced by ‘floor and ceiling effect’.
Specifically:

Page 2 line 61 (Abstract): “Feasibility, floor and ceiling effect, internal consistency, content and construct validity were assessed”

Page 2 line 63 (Abstract): “Feasibility, floor and ceiling effect and internal consistency…”

Page 7 line 211 (Statistical Methods): “Floor and ceiling effects were assessed as the proportion of participants reporting the lowest and highest scores for each instrument dimension; effects >15% were considered as high indicating that the instrument is not sensitive in the target population”

Page 8 line 254 (Results – sub-heading): “Floor and ceiling effects”

4. Reviewer 1: Third, the authors have to do principal axis factoring and not principal component analysis for testing construct validity.

Response: Thank you for this valuable comment. We had omitted detail in the reporting of our factor analysis.

We have also received comment from Reviewer 2 on this matter and have (a) clarified the terminology used in the reporting of the factor analysis and (b) provided more in-depth reporting on our procedure and results.

(a) We have used the terms Confirmatory Factor Analysis (CFA) and Exploratory Factor Analysis (EFA) in order to ensure clarity of our procedure and in keeping with other reporting of factor analysis used in Kidscreen cross-cultural psychometric testings such as Shannon, Breslin, 2017; Ng, Burnett, 2015.
(b) Initially CFA was performed to confirm the five-factor solution of the original Kidscreen-27 instrument. The fit indices reported a poor fit. We then conducted EFA to explore how the instrument behaved without a priori fixed number of factors or preconceived idea of how the variables would load onto the factors. This returned an acceptable 7-factor solution for the proxy report questionnaire. We have revised the manuscript to include detail of our protocol including results of the CFA.

(c) Initially we did not report CFA or EFA for the self-report questionnaire; however on review of the manuscript we have included these results. Although our sample size for the self-report was small (n=64) the data met assumptions required for EFA including those of sampling adequacy.

5. Reviewer 2: The missing values are large. 31(48.4) for SELF-REPORT, 115(74.7) for PROXY REPORT. How the missing scores are weighted is not clear.

Response: Thank you; missing scores were weighted however we omitted specific description of how this was conducted in our statistical methods section. The manuscript has been updated with a description of how the weighting was conducted

Page 7 line 209: "dimensions with missing scores were weighted by dividing responses by total number of participants"

6. Reviewer 2: Construct validity was determined using the known group's method [1]. The authors need to briefly state the method.

Response: We used ‘known groups method’ to assess construct validity as we wanted to determine if Kidscreen-27 was able to distinguish differences in mean score between adolescents with and without CP and according to three levels of severity of adolescent mental health problems. The manuscript has been updated to provide more detail of how known groups method was used.
Page 8 line 226 to 230: “Construct validity was determined using the known group’s method [3]; we assessed mean differences in KIDSCREEN-27 outcomes according to; adolescents (a) with CP and (b) without CP [27-28]; and adolescents with (a) ‘unlikely’, (b) ‘possible’ and (c) ‘probable’ mental health problems using SDQ [29]. Magnitudes of difference between groups in each category were determined by effect size classified as small (≤0.49), medium (0.50 to 0.79), and large (≥0.80) [30].”

7. Reviewer 2: The authors used principal component analysis or EFA to assess the content and validity dimensions of the scores. It is fine. However, except for using Eigenvalue criterion, other criteria such as scree plot also need to assess the dominations of factors.

Response: Thank you for identifying this omission in our reporting of statistical methods. In addition to using Eigenvalue criterion we also inspected Scree plots. The manuscript has been edited to provide a more comprehensive description of our procedure.

Page 7 line 223: “We conducted principal component analysis with Varimax rotation; factors were disregarded according to visual inspection of Scree plot and if eigenvalue was <1.0. Forced extraction was conducted to achieve most interpretable solution [26].”

8. Reviewer 2: Although the purpose of the present study was to cross-culturally translate and adapt using instrument, except EFA, a Confirmatory factor analysis (CFA) will strength the study.

Response: Thank you for this suggestion. We have also received comment from Reviewer 1 on this matter. We have included our results from the CFA that was conducted prior to EFA. More detail on our reply to this matter is detailed in Item 4 from Reviewer 1 above.
Thank you again to both reviewers to the time they have given in providing comment on our manuscript. We hope we have addressed your identified concerns.

Kind regards,

Rosalie