Reviewer's report

Title: Reliability and validity of Arabic adaptation of short form of Rapid Estimate of Adult Literacy in Dentistry (AREALD-30) in Saudi Arabia

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Reviewer: Songlin He

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Reviewer's report: Major Compulsory Revisions

The study is all in all well-performed but with a few shortcomings.

To apply exploratory (EFA) and confirmatory factor analysis (CFA) for the same subjects is not appropriate because the same type of analysis is basically used twice. EFA is appropriate if the authors don’t know how many dimensions are present or if the factor analysis would be applied first. CFA is appropriate when the authors would like to test that the construct is unidimensional, i.e., they hypothesize from previous work that only one factor exist. It is somewhat difficult for me to determine which method should be used. I would recommend that the authors pick one and provide then the rationale as to why this method is appropriate. If EFA would be used, I would recommend showing more details. The ordinal nature of items may require the use of polychoric correlations (I assume the authors have used Pearson correlations). If CFA would be used, the ordinal nature of the variables should also be addressed.

The introduction would benefit from an explanation as to why cross-cultural adaptation is necessary in the process of translation of an instrument. The provision of information regarding the details of cross-cultural adaptation would also be of interest perhaps in the discussion section.

In Abstract section the authors mentioned that a sample of 200 subjects was approached, of which 188 have agreed to participate giving a response rate of 94%. However, in the Methods section, the authors mentioned that a total of 200 subjects were approached, of which 177 have agreed to participate giving a response rate of 88.5%. This is a mistake.

Discussion

Please explain why you did not test the content and criterion validity and also why you did not use the patient groups to validate the instrument.

Please explain why you did not test the intra- and inter-rater reliability.

Please explain why you did not include measures of sensitive and responsiveness.
In addition, the authors found a correlation of 0.959 between AREALD-99 and AREALD-30, this would mean that the scores could actually be replaced by the 30-item question. Furthermore, it would disregard the need to ask 99 questions if only 30 question results in the same answer. I think the section of AREALD-99 should be deleted.

**Level of interest:** An article of importance in its field

**Quality of written English:** Acceptable

**Statistical review:** No, the manuscript does not need to be seen by a statistician.

**Declaration of competing interests:**

I declare that I have no competing interests