Author's response to reviews

Title: Reliability and validity of self-assessment of mouth opening: a validation study.

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Author's response to reviews:

Dear editor,

We would like to thank you and the reviewers for their thoughtful comments on our manuscript. We have revised the manuscript along the lines suggested by the reviewers. Please find below our point-by-point response to the reviewers' suggestions.

As requested by the editor, we have also added a statement regarding the provision of the scale to the conflict of interest section and added the name of the ethics committee.

REVIEWER 1

1. Your selected subjects in the first phase of study were untreated patients at Dental Hospital. Accordingly, your obtained results might include some deviations from normal developing subjects. In particular, TMJ problem is usually associated with instability of mouth opening. Is this subject group good enough for your objective in this study?

Response:

It was our intention to specifically select patients who were experiencing TMJ problems as this would provide a cohort of patents with a varying range of mouth opening. As such, this would enable us to assess the reliability and validity of the scale at differing ranges of mouth opening. You mention that these patients would most likely be associated with instability of mouth opening. While this is true over a longer period of time, for this reliability study, all measurements were recorded within a small time frame (with only 5 minute intervals between the 4 recordings), any longer term instability with mouth opening would therefore not affect our results.
REVIEWER 2

Reviewer's report

The authors repeatedly mention the therabite tool used, unfortunately this gives the paper the feel of advertising literature. I do not believe it is or is intended to be but without a rewrite that uses generic terms whenever possible it will be hard to see it any other way, The discussion also starts wildly enthusiastically but then delves into a more rational discourse on the instrument. I think this simply needs a more careful and deliberately scientific approach to the writing.

Response: We have removed some of the references to the device name in the discussion section, but, as requested by the editor, retained it in the methods section. The first paragraph of the discussion summarizes the main findings of the study; we do not feel that our description is overly enthusiastic.

Secondly there is minimal discussion of why the technique was found to be successful and no reference to similar attempts to use this instrument with other groups - eg Hoole et al. 2011 BJOMS 49 430-438. There is mention that the initial attempts were not successful and this was the reason a number of the initial participants were ommitted from the study. It isn't hard to see why; the level of interest and proper training are all important even in such an apparently simple measurement. As the patients were self interested they got round the problem identified by Hoole et al which was that essentially a group of general nurses were not (although that should probably be phrased more tactfully). There is also no mention of the impact of overbite - the only other group internationally showing interest in this area is physiotherapy based and has no insight into the effect of being dentate or edentulous (your group were obviously all dentate but a considerable number of patients affected by severe trismus, eg oncology patients are not). I think detail as to differences between those with a "normal" ~ -2mm interocclusal contact and a deep overbite and their ability to use the tool would be helpful as would techniques to be used in the edentulous or the prosthetically rehabillitated.

Response: We thank the reviewer for pointing us to the Hoole et al. paper, which is now discussed in the revised manuscript. We are not sure that ‘self-interest’ (or lack thereof) could explain any differences in the results between the Hoole et al. study and ours, as our patients had no particular self-interest in how to use the scale as this tool was simply used in a short term research context. It was not trialled as part of a long-term project where patients suffering with chronic trismus would have had an intrinsic desire to monitor their own mouth opening which could then be attributed as a reason for successful use of the scale. We believe it is difficult to compare these results as different measures of agreement were used in both studies.
We also discuss the limitations inherent in the device that the reviewer mentions, i.e. the fact that it can only be used in patients with incisor teeth present. However, we respectfully disagree with the reviewer that the issue of overbite bears relevance in this study, as measurements were not made in relation to an accepted clinical standard.

Comment: removal of the picture of therabite which adds nothing is needed.

Response: The picture has been removed.

Yours sincerely,

D Saund, D Pearson, T Dietrich