Reviewer's report

Title: Assessing changes in quality of life using the Oral Health Impact Profile (OHIP) in patients with different classifications of malocclusion during comprehensive orthodontic treatment

Version: 4
Date: 5 June 2015

Reviewer: Tim T Newton

Reviewer's report:

This manuscript describes a longitudinal study of change in Oral Health related Quality of Life amongst individuals attending for Orthodontic treatment, broken down into Angle's three classifications of skeletal pattern. Oral Health Related Quality of Life was assessed through the OHIP-14. There were evident changes in OHIP scores over time.

There are very few longitudinal reports of changes in oral health related quality of life in patients receiving treatment, so this is potentially an interesting contribution to the body of knowledge. However there are a number of difficulties with the manuscript as it currently stands which would require to be addressed before publication.

Major Compulsory Revisions:
1. There is very little information provided on the characteristics of the participants. So for example I could find no information on the gender or age of the individuals.
2. I could not find any information on the time period over which this study took place. Since all patients were in active treatment there will be I would imagine about 2 years over which the study took place.
3. I would like to have seen an a priori sample size determination, however given that this may not have been done, it would be good to have some post hoc analysis of power.
4. The statistical analysis involves many analyses - I calculated that there are about 80 statistical analyses undertaken. The authors may wish to discuss the possibility of Type I errors.
5. The section on the limitations of the study should be expanded to include the following:
   Lack of a non treatment control group against which to judge changes in OHIP scores over time.
   Demand effects of treatment - I would suspect the Hawthorne effect has a role in these changes
   The discussion of the possibility of response shift in interpreting the findings see for example

**Level of interest:** An article whose findings are important to those with closely related research interests

**Quality of written English:** Not suitable for publication unless extensively edited

**Statistical review:** Yes, and I have assessed the statistics in my report.

**Declaration of competing interests:**

I declare that I have no competing interests.