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: 7 May 2015

Reviewer: Manoharan Andiappan

Reviewer's report:

Major Compulsory Revision:
1. There are lot of spelling mistakes and the language has to be corrected.
2. The authors have used non parametric test as the data is not normal. Instead they could have tried transformations to make normal and used either repeated measures ANOVA or random effects models to model the scores at various time points.
3. In Statistical analysis section authors have mentioned that the data followed poisson distribution. But this is not a random process and so the word “poisson distribution” is misleading and hence it can be removed. The sentence should read as “Since the data did not follow normal distribution, non parametric tests …..”.
4. It seems the p values have not been adjusted for multiple comparisons. Authors should consider this before interpreting their findings.
5. In discussion, authors have mentioned that validation of Chinese version of this instrument, this way assessing has improved objectivity and persuasion of this study? How this has improved in this study?
6. In the second paragraph of discussion, authors have mentioned that there is no deterioration in their study. How could you arrive at a conclusion that the deterioration is not found in your study when initial period is not included? Explain clearly.
7. In page 8 (last but one paragraph in discussion), they have concluded that OHIP-14 is not sensitive to measure the impact? Social disability scores may not show a significant change as it may be less affected in case of orthodontic patients. Compared to orthodontic problems, orthognathic has more impact on social well being. This could be the one of the reasons. It doesn’t mean that OHIP-14 is not sensitive. This should be discussed in terms of the social impact of these two problems.
8. In the last paragraph of discussion, authors have used the word “individualizational treatment”. What does it mean here? Include proper explanation.
9. In the same paragraph, the last sentence is not clear.
10. When compared to Class I and II samples, the sample size for class III (14) is
small. Is there any justification for the small sample size for this group?
11. It has been mentioned that the overall response rate was 90%. How was the missing data distributed? As the sample size for class III malocclusion was small, any missing data in this group may affect the power of the study. Hence, details about missing data in each group should be mentioned.

Minor essential Revisions:

Spelling/ grammar mistakes in the abstract:
Page-2. The line starting with “Results: significant …”. “could be” should be replaced with “were”.
In the same line remove space after Class II and comma before Handicap.
The “domain of” should be removed in the lines starting with “Class III patients showed….” and “Class II patients showed ….”.
Remove the word “domain of” in the last sentence and it should read as “…….. class I patients benefits the first stage (alignment and levelling) of treatment in the psychological disability and psychological discomfort domains”. Also check the spelling for the word “levelling”.

Introduction : Page-4:
Paragraph -1
Line 5. Measure should be written as “measuring”.
Line 9 – replace “draw” with “drawn”.
Line-11 - replace “branchs” with “branches”.

Paragraph -2
Line 22 - Leave space after comma in “OHRQoL,”.
Line 23 “times” should be read as “time points”.
Line 24 leave space between “a” and “month” at the starting of the line.
Reewrite the sentence starting “The advantage of …” as “The advantages of this method are….”.
Line 25 “situation of patients” can be replaced either with “oral condition of patients” or just “patients”.
Line 30 should read as “space closure and finishing”.
Line 31 “changed” should be as “change”.
Line 32 Remove one “is” accordingly.
Line 33 “on orthodontic care…” as “in orthodontic care”. Small “a” in Although.
Line 37 “Information” not “informations”. In the same sentence “of” may be replaced with “about the”.

Material and Methods: Page-5:
Paragraph-1
Line 4 “comprised of 90 patients”
Line 6 Leave space between “non” and “growing”
Line 10 “untreated”
Line 14 It may be read as “Informed consent were obtained from each patient …”.
Last paragraph
Line 36 “any” should be replace with “and”.
Line 38 The word “summary” can be changed to “composite” or “total”.
Line 40 replace “was” with “were”.

Statistical Analysis : Page-6
Line 6 remove “overall and domain” and should read as “ A higher score represents …”.
Line 8 replace “were” with “was”. This sentence should be as “Friedman two way ANOVA was used to test the significant difference in OHIP-14 scores during the study period”.

Results
Line 18 replace “were” with “was” and it should read as “Thus, the overall response rate was 90% …”.
Line 20-22 Rewrite as “…showed significant decrease (p<0.001) during the study period. Significant reductions (p<0.001) were also observed in …”.
Last paragraph:
Line 27 “at” should be replaced with “between”. Replace “were” with “was”.
Line 29-30 Should read as “Functional limitation and physical pain scores were…..”.
Line 33 remove space after “malocclusion”.
Line 39 remove “scores” and should be as “…psychological discomfort, psychological disability and social disability scores between T1 & T0 (p<0.05), T2 & T1 (p<0.05) and T3 & T2 (p<0.05)”.

Discussion: Page-7
Line 6 The entire sentence starting with “The translated Chinese version …..” can be moved to methods section.
Line 11 Replace “1” with “one”.
Line 12 write “places” instead of “place”
Line 19 Leave space before the starting of the sentence “With..”
Line 20 should read as “Statistically…” not “statically”.

Line 30 rewrite as “…domain scores showed an apparent ….”.

Page-8
Line 1 There are two “would be”s. Remove one “would be”.
Line 3 “… patients who had a class…..” not “has”.
Line 5 “domains” not “domain”.
Line 19-21. Remove “indicating that”.

Page 9
Line 2 “concrete” – correct the spelling mistake.
Line 20 spelling mistake “aesthetics” not “esthetics”. Replace “does” with “do”.

Page 10 spelling mistake in authors contributions. “recruited”
“assisted in the clinical trial”
Remove “of the study” at the end of the same line.
“All authors…”. Add “s”.

Tables: Page 12
Table-1 In the title replace “times” with “time points”

Page 13 At the end “p values obtained from wilcoxon signed rank test”. Replace “by” with “from”.

Figure-1
Remove the numbers given to each domain.
Replace “times” with “Time points”. It should read as “Median domain scores in class I group at 4 different time points”.
Make this change to all three figures.

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

**Quality of written English:** Needs some language corrections before being published

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

**Declaration of competing interests:**

I declare that I have no competing interests’.