Author’s response to reviews

Title: Oral Health Related Quality of Life of Patients with Class III Skeletal Malocclusion Before and After Orthognathic Surgery

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Author’s response to reviews:

Dear Editor in Chief of BMC Oral Health:

Thank you very much for your valuable comments. Please find our point by point responses to reviewers’ comments as follows. Changes made in the manuscript according to the comments are highlighted in yellow.

Reviewer reports:
Clarissa Drummond, Ph.D. (Reviewer 1): The main focus of the article was to "to determine the oral health-related quality of life of patients with class III skeletal malocclusion before and after orthognathic surgery." The study is very relevant, but some issues need to be clarified before it can be published.

1. Abstract
   a) The purpose of the research in the abstract is different from the text. I suggest that the authors standardize.

   Response: It was standardized according to your comment. Please see Introduction section, page 6, lines 121-123.

2. Introduction
   a) The first paragraph can be divided into 3 parts, according to the concept addressed. Please, check it out.

   Response: It was divided into three paragraphs according to your comment. Please see Introduction section, page 4, line 75 and line 84 (first words of paragraphs re highlighted in yellow).
   b) The justification for the study should be improved. It is unclear why this study is important.
‘considering the significance of the appearance of the teeth, class of malocclusion and facial esthetics in social communications and their psychological impact, it is imperative to assess the magnitude of the effect of facial disharmony on quality of life of patients. Moreover, it is important to find out whether the conduction of orthognathic surgery can improve the psychological status and different aspects of quality of life of patients. Considering the lack of such comprehensive studies on the Persian population and the significance of orthognathic surgery for improvement of esthetics and function, this study aimed to determine the oral health-related quality of life of patients with class III skeletal malocclusion before and after orthognathic surgery’.

3. Materials and Methods

a) The last paragraph of the introduction is written "Considering the variability in perception of beauty among different populations and racial and ethnic groups, the effect of class III skeletal malocclusion and positive effects of orthognathic surgery on the quality of life of these patients must be separately evaluated in different communities and ethnic groups." Was data collection for the present study assessed separately from the communities and ethnic groups?
Response: Thank you for your comment. This study was carried out on a Persian population because such studies are lacking on the Persian population. Therefore, this sentence was revised as follows: “Since the perception of beauty widely varies among different populations and racial and ethnic groups, the effect of class III skeletal malocclusion and positive effects of orthognathic surgery on the quality of life of class III patients must be separately evaluated in different populations”. Please see Introduction section, page 5, lines 111-114.

b) In paragraph 1 of the Methods, define the study population better and specify the location where it was conducted.
Response: Further information was added in this respect. This study was conducted on Persian adult patients with class III skeletal malocclusion presenting to a private orthodontic clinic in Kermanshah city, Iran. Please see the Materials and Methods section, page 7, line 140.

c) The type of study needs to be specified.
Response: The study design was added to both the Abstract and the Materials and Methods section. It was a descriptive, quasi-experimental study. Please see the Abstract section, page 2, line 6 and also Materials and Methods section, page 7, line 140.

d) It is necessary to define the presence of a research team.
Response: The following statement was added “The data were collected by our research team comprising of an oral and maxillofacial surgeon, two orthodontists and a dental student.” Please see the Materials and Methods section, page 7, line 141.

d) It is important to detail the OHID-14, MBSRQ and OQLQ indexes better. I suggest the authors to add the possible responses given to each instrument as well as the possible scores that the instruments can reach.
Response: Further information was provided regarding the number of questions in each domain and the
scoring system of the questionnaires used in this study. Please see The Materials and Methods section page 7, lines 146-151; page 7, lines 154-159; page 8, lines 163-169.

e) Was the clinical oral examination performed? If yes, I suggest the authors describe.
Response: Yes, it was. Prior to the onset of orthodontic treatment, patients were interviewed, their chief complaint was recorded and a thorough clinical examination was performed. The soft tissue profile was determined and dental occlusion was evaluated. It was added to the Materials and Methods section. Please see the Materials and Methods section, page 9, lines 189-191.

f) Please, the authors should add the approval number of the research ethics committee.
Response: The ethics committee approval number was added “IR.KUMS.REC.1396.435”. Please see the Materials and Methods section, page 7, line 144 and also under “Ethics approval and consent to participate”.

4. Discussion

a) The second paragraph mentions the groups of the study (line 14), but confusedly. Please, check it out.
Response: This section was rewritten as follows for further clarity: “A total of 112 class III patients were evaluated in three groups. Group 1 included 25 class III patients who sought orthodontic treatment and presented for primary examination and orthosurgical treatment planning. Group 2 included 62 class III patients who had already undergone orthodontic treatment in private offices for the purpose of preparation for orthognathic surgery, and their orthognathic surgery was scheduled for the following month. Group 3 included 25 class III patients who had undergone orthognathic surgery and 2 to 6 months had passed since removal of their orthodontic appliances (they were in the retention phase).” Please see the Materials and Methods section, page 8, lines 174-181.

5. References

a) The references need to be formatted following the norms of the journal.
Response: They were all formatted according to the Instruction for Authors of the Journal. Please see the Reference list.

6. Tables

a) The tables need to be formatted following the norms of the journal.
Response: They were all formatted according to the Instruction for Authors of the Journal.

Ramon Targino Firmino, M.S.c. (Reviewer 2): The manuscript deals with an interesting subject. It is in general well-written. Please pay attention to my comments bellow:

Introduction:
* The introduction is well-written and focused. However, it would be interesting if authors included what the literature states regarding the impact of orthognatic surgery on OHRQoL. What do previous studies state regarding such issue? The rationale of the study could be improved.

Response: Two studies were added and briefly discussed in the Introduction section. Please see the Introduction section, page 5, lines 97-109. The rationale of the study was also improved by adding the following statement: Please see Introduction section, pages 5-6, lines 115-120.

“Considering the significance of the appearance of the teeth, class of malocclusion and facial esthetics in social communications and their psychological impact, it is imperative to assess the magnitude of the effect of facial disharmony on quality of life of patients. Moreover, it is important to find out whether the conduction of orthognatic surgery can improve the psychological status and different aspects of quality of life of patients. Considering the lack of such comprehensive studies on the Persian population and the significance of orthognatic surgery for improvement of esthetics and function, this study aimed to determine the oral health-related quality of life of patients with class III skeletal malocclusion before and after orthognathic surgery”.

Methods:
* This section is too succinct. More detail is needed for example in describing the questionnaires employed (how they are scored, how results are interpretable, and so on).

Response: Further information was provided regarding the number of questions in each domain and the scoring system of the questionnaires used in this study. Please see The Materials and Methods section page 7, lines 146-151 and page 7, lines 154-159.

Response:
* Was there any pilot study conducted to test the methodology?

Response: No, we did not perform a pilot study. But, some previous studies (using only one questionnaire) are available in this respect, such as the study by Mousoulea et al, [3] which we used for sample size calculation. Please see the Materials and Methods section, page 8, line 171.

* Please, state the design of the study.

Response: The study design was added to both the Abstract and the Materials and Methods section. It was a descriptive, quasi-experimental study. Please see the Abstract section, page 1, line 6 and also Materials and Methods section, page 7, line 140.

* Why did authors used a non-specific tool such as OHIP-14 and a condition specific tool for orthognatic surgery (OQLQ)? Wouldn't the last one be enough?

Response: OQLQ and OHIP-14 both evaluate the quality of life but have differences with each other. The OQLQ evaluates the parameters that relate to orthognathic state including social aspects, dentofacial aspects, oral function and awareness of dentofacial esthetics. OHIP-14, however, evaluates the level of satisfaction of patients with their oral function by assessment of functional limitation, physical pain, psychological discomfort, physical disability, psychological disability, social disability and handicap domains. OQLQ has more and different parameters compared to OHIP-14. Thus, we decided to use both questionnaires to cover all the aspects possible and obtain more detailed information regarding the impact of orthognathic surgery on many different domains related to quality of life of patients. To the best of authors’ knowledge, such a comprehensive study has not been performed before in this respect.
* Where were patients from? A university clinic? Private practice?
Response: Further information was added in this respect. This study was conducted on Persian adult patients with class III skeletal malocclusion presenting to a private orthodontic clinic in Kermanshah city, Iran. Please see the Materials and Methods section, page 7, line 140.

Results:
* The description of results is quite tiring. Please consider rewriting some sentences, in order to improve the flowing of reading.
Response: Most parts were re-written according to your comment and the results section was truncated. Please see the Results section.

Discussion:
* A little truncated. Please try to reduce this section in order to maintain focus.

Response: It was truncated as much as possible according to your comment. However, due to high number of parameters evaluated, further truncation could compromise the scientific integrity of paper. Please see the Discussion section.

Thank you very much for your time and consideration